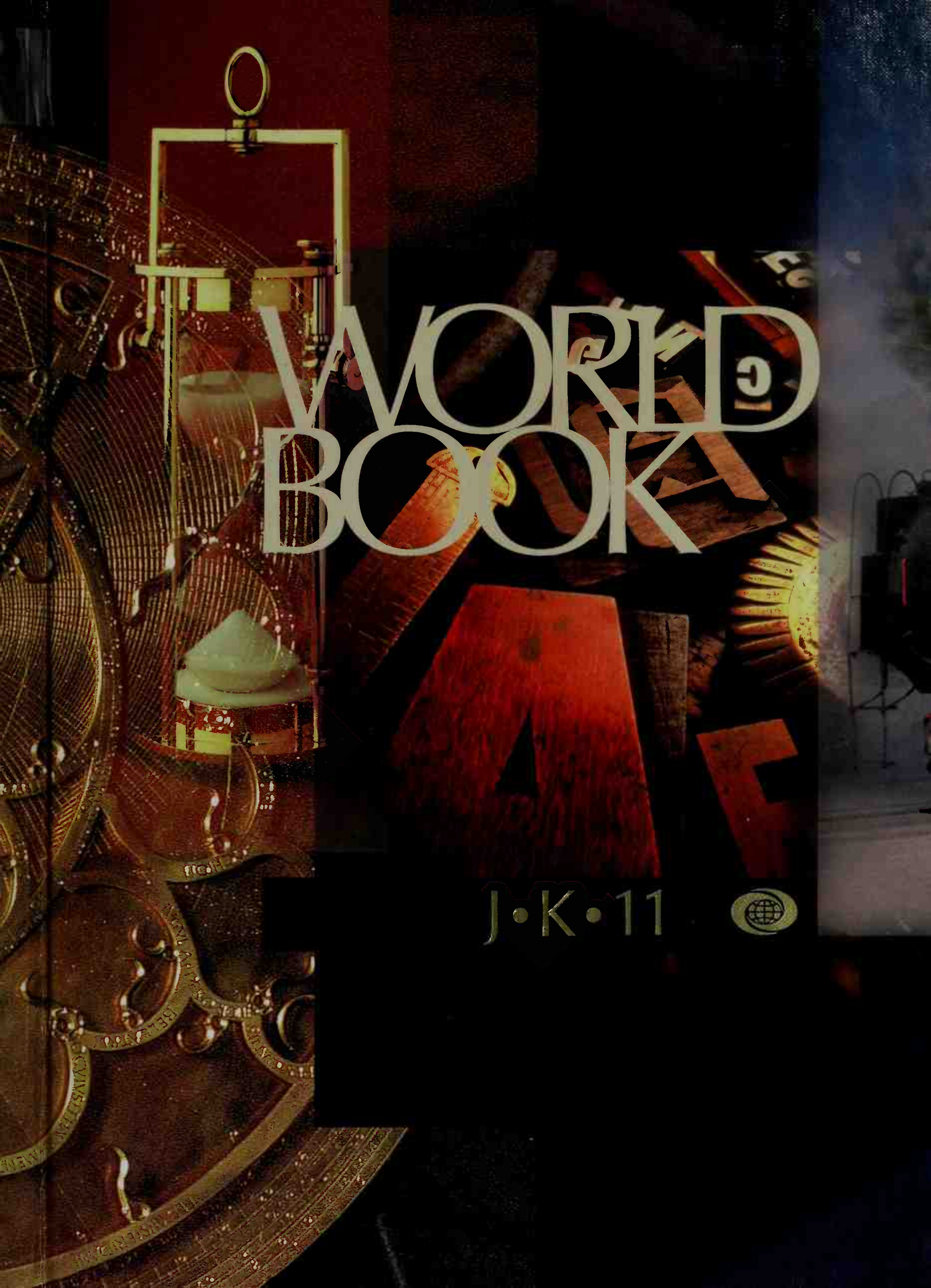
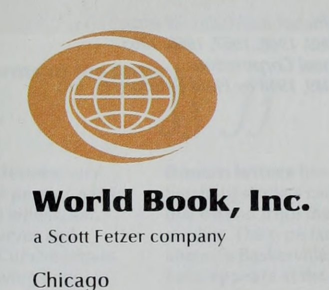

WORLD BOOK
J • K • 11



J-K Volume 11

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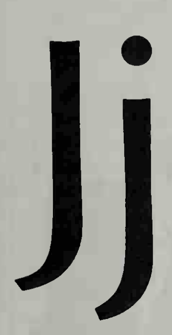
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J is the tenth letter of our alphabet, and was the last to be added. It developed from the letter I, which was the tenth letter in the alphabet used by the Semites, who once lived in Syria and Palestine. They probably adapted an Egyptian *hieroglyphic* (picture symbol) meaning *hand* to represent the letter, but the resemblance is slight. The ancient Greeks used the letter and passed it on to the Romans. In the late Middle Ages, when two or more *i*'s were written together, scribes often added a long tail to the last one. Later, the tail was used to indicate an initial I. During the 1600's, an *i* at the beginning of a word was written with a tail. The *j* developed from these forms, and became a symbol for the consonant *j*, as in *joy.* See **Alphabet**.

Uses. *J* or *j* ranks as the 24th most frequently used letter in books, newspapers, and other printed material in English. In *J.P.*, or Justice of the Peace, it stands for *justice;* and in *J.D.*, or Doctor of Laws, for the Latin *juris,* or *laws.* Jewelers use *j* to indicate *jewels* in watches.

Pronunciation. In English, a person pronounces *j* by placing the tongue below the edges of the lower front teeth. The breath is expelled, and the vocal cords vibrate. The normal sound of *j* in English is the one in *jam.* Occasionally, *j* has a *y* sound, as in *hallelujah,* and in Latin, German, and Scandinavian languages. In Spanish, *j* has the sound of *h.* In French, it is roughly like *sio* in the English word *adhesion.* See **Pronunciation**.

Marianne Cooley

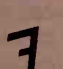
Development of the letter J



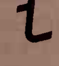
The ancient Egyptians drew this symbol of a hand about 3000 B.C. Two letters, J and I, developed from the symbol.



The Semites simplified the symbol for their alphabet about 1500 B.C.



The Phoenicians changed the Semitic letter about 1000 B.C. They named it *yod,* which was their word for *hand.*



The Greeks, about 600 B.C., made the letter a single stroke called *iota.*

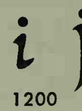


The Romans gave the I its capital form about A.D. 114.



Medieval scribes added a tail to the I when it appeared in certain positions. The J developed from this practice.

The small letter j first appeared about 1200. It developed from the small i.



j

Today

Special ways of expressing the letter J

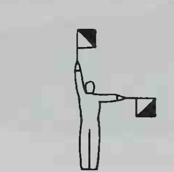


International Morse Code

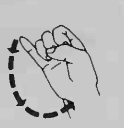
Braille



International Flag Code

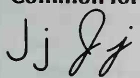


Semaphore Code



Sign Language Alphabet

Common forms of the letter J



Handwritten letters vary from person to person. *Manuscript* (printed) letters, *left,* have simple curves and straight lines. Cursive letters, *right,* have flowing lines.



Roman letters have small finishing strokes called *serifs* that extend from the main strokes. The type face shown above is Baskerville. The italic form appears at the right.



Sans-serif letters are also called *gothic letters.* They have no serifs. The type face shown above is called Optima. The italic form of Optima appears at the right.



Computer letters have special shapes. Computers can "read" these letters either optically or by means of the magnetic ink with which the letters may be printed.

J particle. See Psi particle.
Jabbar, Kareem Abdul-. See Abdul-Jabbar, Kareem.
Jabiru, *JAB uh roo,* is a stork that lives in South America. The jabiru is about 5 feet (1.5 meters) long, with a wingspread of about 7 feet (2.1 meters). Its huge bill is 1 foot (30 centimeters) long. The jabiru's plumage is pure white. The bill and legs, as well as the head and neck, are all black, except for a reddish ring of skin around the lower neck. Jabirus feed on frogs, fishes, and other water animals. See also **Stork.** James J. Dinsmore

Scientific classification. The jabiru is in the stork family, Ciconiidae. The scientific name for the South American jabiru is *Jabiru mycteria.*

Jaçana, *ZHAH suh NAH,* is a type of small wading bird found in tropical areas worldwide. Jaçanas have extremely long toes and nails. The long toes permit a jaçana to run easily over the floating leaves of large water plants, when it searches for food. An Asian jaçana, called the *surgeon bird,* has a long tail like a pheasant's. This bird is brownish above and purplish below. It has a white head and white wings.

The *northern jaçana,* also called *American jaçana,* lives in South America and as far north as Texas. It has purplish-chestnut feathers. In the bend of each wing is a strong spur, which the jaçana uses as a weapon.

Fritz L. Knopf

Scientific classification. Jaçanas belong to the jaçana family, Jacanidae. The scientific name for the northern jaçana is *Jaçana spinosa.*

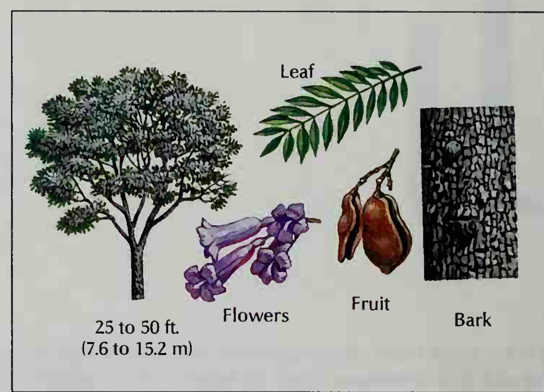


WORLD BOOK illustration by John Rignall, Linden Artists Ltd.

The jaçana is a tropical wading bird. Its long toes enable the jaçana to run over floating water plants as it searches for food.

Jacaranda, *JAK uh RAN duh,* is the Brazilian name for a group of trees and shrubs native to tropical America. The tall, beautiful *fern-tree jacaranda* grows in many subtropical regions of the world, including the southern United States. Its large fernlike leaves consist of many tiny leaflets. The tree sheds its leaves in early spring. In late spring, it produces large clusters of beautiful bluish-violet flowers. Alwyn H. Gentry

Scientific classification. Jacarandas belong to the bignonia family, Bignoniaceae. They make up the genus *Jacaranda.* The scientific name for the fern-tree jacaranda is *J. mimosifolia.*



WORLD BOOK illustration by John D. Dawson

The jacaranda is a beautiful flowering tree that grows in tropical and subtropical climates. It has small, purplish, bell-shaped flowers and delicate, fernlike leaves.

Jack Frost is the imaginary sprite who is supposed to trace the patterns that frost makes on trees, windows, and other objects. The sprite appears in nursery rhymes and stories as an elflike character representing nipping cold.

Jack Frost might have originated in Scandinavia. In Norse mythology, Kari, god of the winds, had a son named Jokul or Frosti. *Jokul* means *icicle,* and *Frosti* means *frost.* Frosti had a son named *Snjo,* meaning *snow.* In Russia, frost is represented as Father Frost, a mighty smith who binds the earth and waters with his chains. In German tales, frost sometimes appears as an old woman. When Old Mother Frost shakes her bed, white feathers fly and snow begins to fall.

Ellen J. Stekert

Jack-in-the-pulpit is any of several American wildflowers that grow in moist woodlands, flood plains, thickets, and swampy or boggy areas. Jack-in-the-pulpits are found chiefly in the eastern half of the United States. They are also called *Indian turnips* or *bog onions.*

A jack-in-the-pulpit has a *spadix,* which is a cluster of small flowers crowded on a slender stalk. This part of the plant is the "preacher." It is enclosed in a hoodlike, leafy *spathe,* which forms the "pulpit." Spathes vary from green to purple or bronze, and may be striped. The flowers bloom from April to June. The plant also has showy clusters of scarlet or red-orange berries.

The jack-in-the-pulpit is considered poisonous when eaten raw. The plant's tissues contain bundles of needlelike crystals that can injure the mouth and throat. Indians used the plant for food, but only after a long series of preparations to make it edible. J. Massey

Scientific classification. Jack-in-the-pulpits belong to the arum family, Araceae. The most common species is *Arisaema triphyllum.*

See also **Arum.**

Jack-o'-lantern is a name often given to a hollowed-out pumpkin which has eyes, nose, and a mouth carved in one side. Jack-o'-lanterns are usually made on Halloween, and a candle or other light is placed inside the pumpkin. The term also refers to the light that frequently shines from rotting stumps or logs in swampy land. St.

Elmo's fire is sometimes called jack-o'-lantern.

See also **Halloween** (Halloween customs); **Saint Elmo's fire**; **Will-o'-the-wisp**.

Jack rabbit is a name for four kinds of large hares found in deserts and prairies in western North America. The four kinds are the *black-tailed, white-tailed, white-sided,* and *antelope* jack rabbits. All of these hares have long hind legs, large eyes, and long, thin ears. They have



Joseph Van Wormer, Bruce Coleman Inc.

The black-tailed jack rabbit lives in dry areas of Mexico and the western United States. It is sometimes called the *jackass hare* because its long ears resemble those of a donkey.

brownish-gray fur and a pure white belly. The antelope jack rabbit, the largest kind, weighs about 8 pounds (3.6 kilograms). It grows to nearly 27 inches (69 centimeters) long. White-tailed jack rabbits range northward into Canada and eastward into Wisconsin.

Jack rabbits like to eat *succulents,* plants with thick, juicy leaves or stems. Jack rabbits often become pests by eating such crops as alfalfa. The chief enemies of jack rabbits are coyotes, but eagles, bobcats, badgers, and other animals also prey on them. Charles A. Long

Scientific classification. Jack rabbits are in the rabbit and hare family, Leporidae. They belong to the genus *Lepus.*

See also **Hare**; **Rabbit**.

Jack Russell terrier is a breed of dog developed in England. It is also known as the Parson Russell terrier or Parson Jack Russell terrier. The dog grows about 12 to 14 inches (30 to 36 centimeters) high at the *withers* (ridge between the shoulders) and ideally weighs from 13 to 17 pounds (6 to 8 kilograms). Its strong, muscular body has a top coat of coarse, weatherproof hair and a soft undercoat. The top coat may be *smooth* (consisting of evenly short hair) or *broken* (containing some longer hair). The dog can be white, white with black or tan markings, or tricolored. Preferably, the markings should cover parts of the head and the base of the tail.

The Jack Russell terrier was developed in southern England during the 1800's to help hunters catch red foxes. It was named after John Russell, an English clergyman and well-known fox hunter. People still use Jack



Sally Ann Thompson, Animal Photography

The Jack Russell terrier has a strong, sturdy body.

Russell terriers for hunting. The dogs can pursue foxes both aboveground and belowground. These terriers may also make excellent pets. But first-time dog owners probably should avoid choosing the breed as a pet because the dogs need careful training and much exercise.

Critically reviewed by the Jack Russell Terrier Association of America

Jack the Ripper was an unknown murderer who terrorized London in 1888. From August 31 to November 9, five prostitutes were killed and mutilated. The murderer was called Jack the Ripper because a knife was used to cut the victims' throats and slash their bodies.

The murderer was never caught in spite of the efforts of police, citizen patrols, bloodhounds, and even fortunetellers. Scotland Yard, the headquarters of the London Metropolitan Police, identified three principal suspects. All were men who were known to be insane. However, the police failed to prove that any of them had committed the murders. Widespread charges of police incompetence caused the commissioner of Scotland Yard, Sir Charles Warren, to resign on November 8, the day before the fifth murder.

The London police received hundreds of letters from people who claimed to be the murderer. Only one of the letters seemed to be authentic. The sender's address was "From Hell," and part of a kidney of one of the victims was enclosed. Donald Rumbelow

Additional resources

Knight, Stephen. *Jack the Ripper: The Final Solution.* Harrap, 1976.

Rumbelow, Donald. *The Complete Jack the Ripper.* New York Graphic Society, 1975.

Jackal is a wild dog that lives in Asia, Africa, and southeastern Europe. Arabs call it "the howler" because of its mournful cry and yapping, usually heard at night.

Jackals feed on almost any small animal, but they are chiefly scavengers that eat animals they find dead. For this reason, they are important as "street cleaners" in some Asian and African cities. Jackals have a musky smell. Because of this, jackals are considered to be poor pets.

The *common jackal* looks more like a fox than a dog. It is about 14 inches (36 centimeters) high at the shoulder, and 2 to 2 ½ feet (61 to 76 centimeters) long. It has a grayish-yellow or brown coat, and a bushy tail about 8 inches (20 centimeters) long. People prize the *black-backed jackal* of Africa for its fur, which is more attractive than that of the common jackal. James L. Patton

Scientific classification. Jackals belong to the family Canidae. The common jackal is classified as *Canis aureus;* the black-backed jackal is *C. mesomelas.*



John Wightman, Colorific

The jackal, a member of the dog family, is mainly a *scavenger,* an animal that feeds on creatures it finds dead. The *black-backed jackal, shown here,* is prized for its fur.

Jackdaw is a small crow that is common in Europe and North Africa. It is dusky black, with gray on the back of the head and on the cheeks and neck. It measures about 13 inches (33 centimeters) long.

Jackdaws are found in parks and woodlands, on farms, and in towns. They are social birds that live in flocks all year. Each member knows its status, and high-ranking birds are allowed to eat and drink before low-ranking birds. Jackdaws nest in holes in trees, cliffs, buildings, or towers. Males and females mate for life.

Jackdaws are clever and mischievous. They often carry away and hide small bright objects. They also can learn to imitate sounds. Martha Hatch Balph

Scientific classification. The jackdaw is in the crow family, Corvidae. It is *Corvus monedula.*

Jacks, also called *jackstones,* is the name of a children's game played with small metal objects called *jacks.* Players must pick up the jacks from the ground while tossing and catching a ball or another jack. Children usually play with a ball and six or more jacks. Players take turns trying to do a number of stunts without a miss. The first player to complete the stunts wins the game. Some of these stunts are called *Downs and Ups, Upcast, Downcast, Scrubs, Bounce,* and *No Bounce.*

Jacks without a ball is faster and more difficult. Ten jacks are usually used. Stunts are performed while one jack is being tossed in the air. Some of the stunts are *Over and Back, Scatters, Pigs in the Pen,* and *Sweeps.*

Each metal jack has six points. The game probably came from *Pebble Jackstones,* which is still played in Asia and Europe. An older Asian game used knucklebones of sheep or other animals. Rachel Gallagher



© Linda Kelly-Hassett from Caryle Calvin

Jacks is a children's game played with a rubber ball and metal objects called *jacks.* Each player bounces the ball and tries to pick up a certain number of jacks while the ball is in the air.

Jackson, Mississippi (pop. 184,256; met. area pop. 440,801), is the capital and largest city of the state. It serves as a center of commerce, industry, and transportation and is called the *Crossroads of the South.* Jackson lies on the west bank of the Pearl River in central Mississippi. For location, see **Mississippi** (political map).

In 1821, the Mississippi Legislature established the capital in the center of the state at a site called LeFleur's Bluff. The Legislature renamed the site Jackson to honor Major General Andrew Jackson, a hero of the War of 1812. Jackson later became president of the United States.

Description. Jackson, one of the two county seats of Hinds County, covers about 105 square miles (272 square kilometers). Raymond is the other county seat.



WORLD BOOK illustration by John Rignall, Linden Artists Ltd.

The jackdaw belongs to the crow family. It lives in Europe and North Africa and often nests in towns and villages.

Jackson has about 60 public schools. Belhaven and Millsaps colleges, Jackson State University, the Reformed Theological Seminary, Wesley Biblical Seminary, and the University of Mississippi Medical Center are in the city. Mississippi College lies just west of Jackson, and Tougaloo College is north of the city.

Tourist attractions in Jackson include the Old Capitol, which houses the State Historical Museum; the Mississippi Agricultural and Forestry Museum; the Mississippi Museum of Art; and the Mississippi Museum of Natural Science. The city's Dizzy Dean Museum has memorabilia about the legendary baseball pitcher. The state Legislature meets in the new Capitol (see **Mississippi** [picture]). The Jackson Symphony, Mississippi Opera, and Ballet Mississippi perform in the Municipal Auditorium.

Economy. Jackson's central location in the South helps make it one of the most important commercial centers of that region. Some of Mississippi's largest banks and law firms are located in the city. Bus companies and railroad passenger and freight lines serve the city, as does Jackson International Airport.

Jackson's metropolitan area has about 400 manufacturing companies. The city's chief products include automotive and aircraft parts, electrical houseware equipment, and motors. Other major industries include food processing and the manufacture of clothing, furniture, and products made of clay, glass, or stone.

Government and history. Jackson has a mayor-council form of government. The voters elect a mayor and seven council members to four-year terms.

Choctaw Indians lived in what is now the Jackson area before French settlers arrived during the early 1700's. In 1792, Louis LeFleur, a French-Canadian fur trader, set up a trading post there. In 1821, the Mississippi Legislature chose this post as the site of the state capital. Jackson became the capital in 1822.

During the American Civil War (1861-1865), Union forces invaded Jackson four times. General William T. Sherman and his troops burned much of the city in 1863. The rapid development of railroads during the late 1800's helped make Jackson a center of trade.

In 1930, a natural gas field was discovered near Jackson. This discovery attracted industry because the gas provided cheap fuel for factories.

In the 1960's, city leaders began "An Action Program for Jackson's Economic Development." This program campaigned to attract industry. About 70 companies built factories in the area in the late 1960's and early 1970's. The factories provided jobs that drew more people. Jackson expanded its boundaries in 1971 and 1976. From 1970 to 1980, the population grew by about 32 percent. A Civic Arts Center-Planetarium, including an art gallery, a planetarium, and two rehearsal halls, was completed in 1978. Jackson's population fell slightly during the 1980's and 1990's. Robert W. Wales

For the monthly weather in Jackson, see **Mississippi** (Climate).

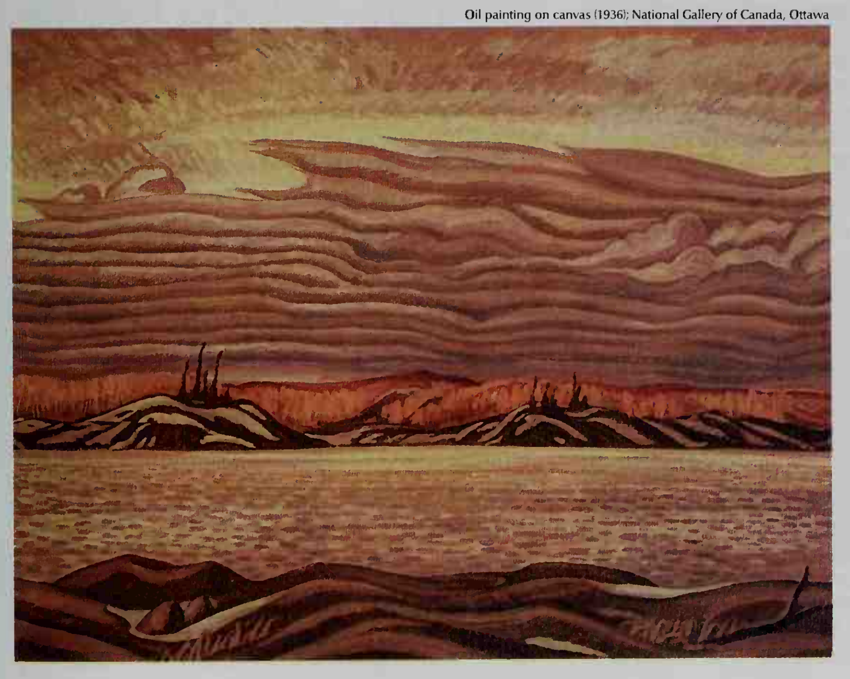
Jackson, Alexander Young (1882-1974), a Canadian landscape painter, was a founding member of a group of Canadian artists called the *Group of Seven.* The group developed a national school of painting in the early 1900's based on the Canadian wilderness.

Jackson traveled across Canada, painting in Ontario, Quebec, and the West. He greatly influenced young painters of the 1930's and 1940's. Jackson was a strong supporter for the continuation of the group's ideas.

Jackson was born in Montreal. He studied in Montreal and in Paris. Jackson moved to Toronto in 1913. He helped to develop *The Canadian Group of Painters,* a national association that was formed in 1933 to succeed the Group of Seven. David Burnett

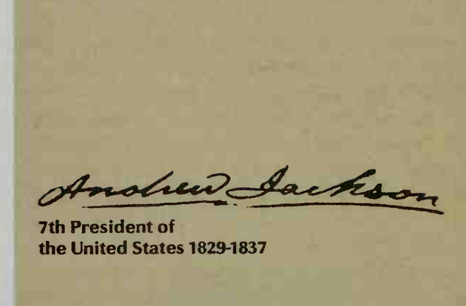
See also **Group of Seven.**

Oil painting on canvas (1936); National Gallery of Canada, Ottawa

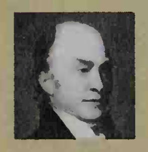


Algoma, November is one of many wilderness landscapes Alexander Jackson painted to portray the beauty and grandeur of the Algoma district of southern Ontario.





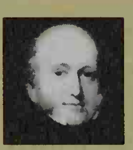
7th President of the United States 1829-1837



Adams
6th President
1825-1829
Democratic-Republican



Jackson
7th President
1829-1837
Democrat

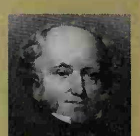


Van Buren
8th President
1837-1841
Democrat





John C. Calhoun
Vice President
1829-1832



Martin Van Buren
Vice President
1833-1837

Detail of an oil portrait on canvas (about 1832) by Ralph E. W. Earl; collection of the Daughters of the American Revolution Museum, Washington, D.C.

Jackson, Andrew (1767-1845), was the first President born in a log cabin. Earlier Presidents had come from well-to-do families. Jackson, the son of poor Scotch-Irish immigrants, became an orphan at 14. He grew up on the frontier of the Carolinas. Then he moved to Tennessee, where he became a successful lawyer and landowner. Jackson won fame as an Indian fighter and as a general in the War of 1812. He was nicknamed "Old Hickory" because of his toughness.

Jackson was a founder of the Democratic Party. He won election as President in 1828 partly because his party was so well organized throughout the nation. Jackson's military fame also attracted many voters.

Jackson made the presidency a more powerful office, though still subject to the will of the people. As President, he disapproved of many actions by Congress and vetoed 12 bills, more than all previous Presidents combined. Many of these bills sought to increase federal spending on domestic improvements. The Democrats believed that the states, not the national government, should pay for such projects. Jackson's strong actions, particularly during disputes involving the Bank of the United States and the rights of states, won him much praise. He became known as a champion of the people.

The 20-year period after Jackson became President is often called the *Age of Jackson.* It has been described as the years of "the rise of the common man." Under Jackson's leadership, his followers tried to win reforms in the states. They demanded state regulation and inspection of banks. They fought for the right of workers to organize labor unions, and called for a 10-hour workday. They sought adoption of the secret ballot in elections. When Jackson was reelected President in 1832, he became the first President who had been nominated by a national political convention. Historians often use the term *Jacksonian Democracy* to describe the reforms and reform movements of the period from 1828 to 1850.

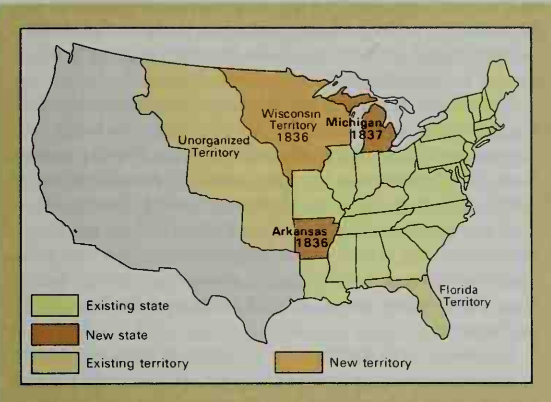
During Jackson's presidency, the opening of land in the West sped up the westward movement. Wild speculation on land, roads, canals, and cotton led to a business depression in the late 1830's. William Lloyd Garrison organized one of the first societies favoring an end to slavery. Peter Cooper built the first American steam locomotive used for passenger service, and Jackson became the first President to ride a train.

Early life

Boyhood and education. Andrew Jackson was born on March 15, 1767, in either North Carolina or South Carolina—no one really knows which. Jackson believed he was born on the farm of his uncle, James Crawford, in Waxhaw settlement, South Carolina. The Crawford house stood on the west side of the road that formed the boundary between North Carolina and South Carolina at that time.

Jackson's parents, Andrew and Elizabeth Hutchinson Jackson, were a poor farm couple from Northern Ireland. They had sailed to America in 1765 with their first two sons, Hugh and Robert. The elder Jackson built a log cabin and started farming. He died in 1767, a few days before Andrew, their third child, was born. Mrs. Jackson and the boys moved into the log cabin home of the Crawfords. Mrs. Jane Crawford was Mrs. Jackson's sister.

The young Andrew had a quick temper. He grew up among people who were ready to fight at any time to defend their honor. This led him into many fights. Any boy who dared to play a practical joke on Andrew



Two new states—Arkansas in 1836 and Michigan in 1837—joined the Union during Jackson's presidency, making a total of 26. Congress established the Wisconsin Territory in 1836.



The United States flag had 25 stars, *left,* by the end of Jackson's second term in the presidency. A 26-star flag was adopted after he left office in 1837.

The world of President Jackson

Electromagnetic induction, a way of turning mechanical energy into electricity, was discovered independently by two physicists—Michael Faraday of England and Joseph Henry of the United States—in the early 1830's. Both men found that a moving magnet produced electric current in a coil of wire.

Black Hawk, a Sauk Indian chief, led a group of Sauk and Fox Indians to try to regain their land near Rock Island, Ill., from white settlers. The resulting conflict, the Black Hawk War of 1832, ended in defeat for the Indians.

The daguerreotype, an early type of photograph printed on a metal plate, was developed by the French painter Louis J. M. Daguerre in the 1830's.

Presidential candidates began to be chosen by national conventions in the election of 1832.

The first coeducational college in the United States, Oberlin Collegiate Institution (now Oberlin College), began to admit students of both sexes in 1833.

Romanticism flourished in music. The romantic composers Felix Mendelssohn and Robert Schumann of Germany and Frédéric Chopin of Poland wrote many of their finest works during the 1830's.

The first successful reaping machine, which enabled farmers to harvest grain much more quickly, was patented by the American inventor Cyrus McCormick in 1834.

The Battle of the Alamo, the most famous battle in the war for Texan independence, took place in 1836. Mexican troops under General Antonio López de Santa Anna defeated the Alamo defenders, including Davy Crockett and Jim Bowie.

WORLD BOOK map

found himself challenged to a battle. A schoolmate later recalled that Andrew would "never give up," even when another boy had him on the ground. Andrew attended school in the Waxhaw Presbyterian Church. His mother hoped he would become a minister.

In those days, most farm communities had "public readers" who read aloud items from the Philadelphia newspapers. Andrew later recalled that he was "selected as often as any grown man" to be the reader. In 1776, at the age of 9, he read the newly adopted Declaration of Independence to his neighbors.

At the age of 11, Andrew was sent to a nearby boarding school. He studied reading, writing, grammar, and geography. But sports and cockfighting occupied more of his time than did studying. He wrote a "Memorandum" on "How to feed a cock before you fight."

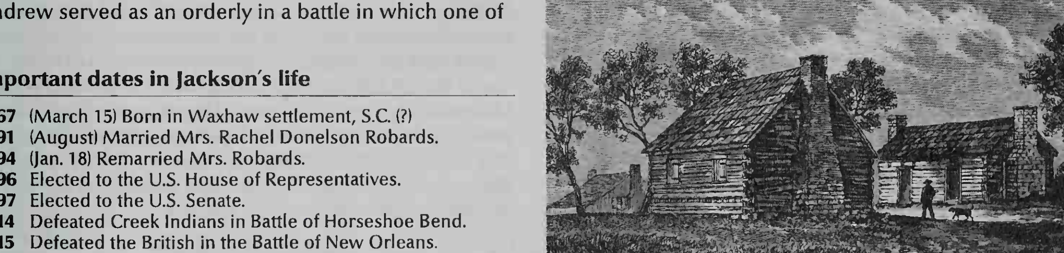
The Revolutionary War. In 1780, British troops invaded South Carolina. The 13-year-old Andrew and his brother Robert joined South Carolina's mounted militia. Andrew served as an orderly in a battle in which one of his uncles, James Crawford, was wounded. Andrew's brother Hugh had died after an earlier battle.

In April 1781, a British raiding party captured Andrew and Robert. The British commander wanted his boots cleaned, and ordered Andrew to scrub them. The boy refused, arguing that he had rights as a prisoner of war. The angry officer lashed out at Andrew with his sword, and the youth threw up his left hand to protect himself. The blade slashed Andrew's hand to the bone and cut him badly on the head. He carried scars from the wounds for the rest of his life.

The British officer forced Andrew and Robert to march 40 miles (64 kilometers) to a military prison at Camden, S.C. The brothers caught smallpox there. In an exchange of prisoners, Elizabeth Jackson obtained the freedom of her sons. But Robert soon died of smallpox. Mrs. Jackson died a short time later, and Andrew

Important dates in Jackson's life

1767 (March 15) Born in Waxhaw settlement, S.C. (?)
1791 (August) Married Mrs. Rachel Donelson Robards.
1794 (Jan. 18) Remarried Mrs. Robards.
1796 Elected to the U.S. House of Representatives.
1797 Elected to the U.S. Senate.
1814 Defeated Creek Indians in Battle of Horseshoe Bend.
1815 Defeated the British in the Battle of New Orleans.
1821 Appointed provisional governor of Florida.
1823 Elected to the United States Senate.
1828 Elected President of the United States.
1832 Reelected President.
1845 (June 8) Died at the Hermitage in Nashville, Tenn.



Library of Congress

Jackson's boyhood home was a log cabin in the Waxhaw settlement in South Carolina, near the boundary with North Carolina. No picture of his birthplace is known to exist.



Chicago Historical Society

As a teen-ager, Jackson served in the Revolutionary War and was captured by the British. A British officer slashed Jackson with his sword, *above,* because the boy refused to clean the soldier's boots.

became an orphan at the age of 14. "I felt utterly alone," he later recalled.

After the Revolutionary War, Andrew found little to interest him in school. His grandfather, a merchant in Northern Ireland, left him 300 pounds, a substantial amount of money. Andrew wasted the inheritance gambling on horse races and cockfights. In 1783, he taught school for a short time near Waxhaw.

Lawyer. Jackson met Spruce Macay, a wealthy lawyer, in Salisbury, N.C., in 1784. He persuaded Macay to let him study law in his office. But he soon established a reputation as "the most roaring, rollicking, game-cocking, horse-racing, card-playing, mischievous fellow that ever lived in Salisbury," according to an old-time resident of the town. Professional standards for lawyers were not high in those days, and Jackson was admitted to the bar in 1787.

In 1788, John McNairy, judge of the Cumberland superior court, appointed Jackson solicitor, or attorney general, for the region that now forms Tennessee. On his way to Nashville, Jackson stopped briefly at Jonesborough to take part in a civil suit. He accused the opposing lawyer, Waightstill Avery, of taking illegal fees, and challenged him to a duel. The argument ended with both men firing their pistols into the air.

Thousands of settlers had moved into Nashville after the Revolutionary War. Many refused to pay their bills and ignored the law. Jackson sent many debtors and other law violators to jail. His success as a public official brought him a large private law practice.

Jackson's family. Jackson lived in the Nashville boardinghouse of Mrs. John Donelson, a widow. He became attracted to her daughter, Mrs. Rachel Donelson Robards (June 15, 1767-Dec. 22, 1828). The dark-eyed Mrs. Robards was separated from her husband, Captain Lewis Robards, an army officer. After frequent quarrels with her husband, Mrs. Robards moved to Natchez, Miss. Jackson and Mrs. Robards believed that Robards had obtained a divorce and were married in Natchez in August 1791. In December 1793, they learned that Robards had not been granted a divorce until September of that year. Jackson and his wife were remarried on Jan. 18, 1794, in Nashville. The confusion surrounding their marriage and remarriage made the couple targets of gossip that troubled their lives for decades.

The Jacksons had no children. In 1809, they adopted the four-day-old nephew of Mrs. Jackson. The boy's mother had been in poor health. With Jackson's permission, his adopted son took the name Andrew Jackson, Jr. (1809-1865). Mrs. Jackson's brother, Samuel Donelson, died in 1805. The Jacksons also reared his two sons, John Donelson and Andrew Jackson Donelson. In 1819, Andrew Jackson Hutchings became a ward of the Jacksons. He was the son of John Hutchings, Mrs. Jackson's nephew.

Business and politics. In addition to practicing law, Jackson made money by selling land to new settlers. He bought land for as little as 10 cents an acre and later sold it for as much as $3 an acre. In 1796, he bought Hunter's Hill, a plantation 13 miles (21 kilometers) from Nashville. In 1804, he purchased a plantation about 12 miles (19 kilometers) from Nashville. This plantation became known as the Hermitage.

Jackson served as a delegate to the state constitutional convention that prepared for Tennessee's admission into the Union. There is a story that Jackson proposed the name "Tennessee" for the new state. He was elected to the United States House of Representatives in 1796.

Jackson's rough western frontier manners made him stand out among the representatives of eastern states in Congress. He made only two speeches during his three months in the House. Jackson was 1 of 12 representatives who voted against a resolution praising President George Washington's Administration. He criticized Washington's Indian and foreign policies.

Jackson was elected to the U.S. Senate in 1797. He took a leave of absence in April 1798. He went home, then resigned from the Senate. Jackson wanted to care for his personal affairs. He also felt that the pace of life in the capital, Philadelphia, was too slow.

Six months later, the Tennessee legislature elected Jackson as a justice of the state supreme court. He held that office for six years. In 1804, Jackson resigned the judgeship to devote full time to his private affairs. He had many debts, and his creditors were demanding payment. Jackson sold his Hunter's Hill plantation and moved to the Hermitage. In 1805, he and John Hutchings established a general store at Clover Bottom, near the Hermitage. Jackson built a stable near the store and bought several race horses. He added to his income with fairly steady winnings on his horses.

Jackson's hair-trigger temper involved him in many duels. But he killed a man in only one. His pistol duel in 1806 with Charles Dickinson, a lawyer, ended in Dickinson's death. Jackson suffered a serious wound. Dickinson had accused Jackson of being a "worthless scoundrel, a poltroon, and a coward." He also had made insulting remarks about Mrs. Jackson.

Jackson the soldier

The War of 1812 gave Jackson new opportunities. He had been a major general in the Tennessee militia since 1802. When war with Great Britain began, he quickly offered his services to President James Madison.

For several months, Jackson and his 2,500 Tennessee militiamen awaited orders from the War Department. Finally, in January 1813, Governor Willie Blount of Tennessee directed him to reinforce American troops in New Orleans. After Jackson arrived in Natchez, Miss., on the way to New Orleans, he received orders from Secretary of War John Armstrong to demobilize his forces on the spot. Jackson was furious because the federal government had not provided pay, food, transportation, or medicine for his men. He refused to demobilize his army and led his men home through the 500 miles (800 kilometers) of wilderness. "He's tough," one soldier said of Jackson. "Tough as hickory," came the reply. As a result, Jackson returned to Tennessee with his famous nickname, "Old Hickory."

The Battle of Horseshoe Bend. Jackson next took command of a volunteer force of 2,000 men in a campaign against the Creek Indians. The Creek had massacred several hundred settlers at Fort Mims in the Mississippi Territory (now Alabama). A serious shortage of supplies and food made military operations difficult for Jackson. He also had to put down two mutinies when some of his men threatened to desert.

The decisive battle of the campaign was fought on March 27, 1814. It took place near the Creek village on Horseshoe Bend of the Tallapoosa River, near present-day Alexander City. Jackson allowed the Indian women and children to cross the river to safety before he attacked. Then his men nearly wiped out the entire Indian force of 800 braves. "The carnage was dreadful," Jackson wrote later. He dictated peace terms to the Creek, who gave up 23 million acres (9,310,000 hectares) of land in present-day Georgia and Alabama.

Glory at New Orleans. The federal government commissioned Jackson a major general in the regular army. The army expected a British attack on New Orleans. Jackson was assigned to command U.S. forces along the southern coast.

Before moving on to New Orleans, Jackson asked permission to seize Pensacola in Spanish Florida. The British had been using the town as a military base. Orders failed to arrive, so Jackson took the responsibility. He captured the town in a quick campaign. The victory left him free to supervise the defense of New Orleans. Jackson arrived in the city on Dec. 1, 1814, and found the people almost defenseless. Though ill with dysentery, he set a furious pace in preparing to defend the city. Among other actions, Jackson proclaimed martial law. He even accepted the help of Jean Laffite and his pirates (see **Laffite, Jean**). Timely reinforcements from Kentucky and Tennessee increased his forces to about 5,000 men.

After several minor attacks, the British army of more than 8,000 men began its attack at dawn on Jan. 8, 1815. The British marched up in close columns against earthworks defended by Jackson's artillery and riflemen. The attack ended in a terrible defeat for the British, who suffered 300 men killed, 1,250 wounded, and 500 captured. The American losses totaled only 14 men killed, 39 wounded, and 18 captured.

The victory made Jackson a national hero. But it had no effect on the War of 1812 because a peace treaty had been signed two weeks earlier. Communications were so slow that Jackson had not learned about the treaty. See **War of 1812**.



Oil portrait on canvas (1820's) by Ralph E. W. Earl; The Hermitage, Nashville, Tenn. (Ladies Hermitage Association)

Rachel Jackson, Jackson's wife, died of a heart attack in December 1828. Her death came shortly before her husband left for Washington to be inaugurated President.

Florida expedition. Jackson returned to his plantation in Tennessee but remained in command of the army's Southern Division. In December 1817, he received orders to lead an expedition to Florida. Fierce Seminole Indians, some discontented Creek, and groups of escaped slaves and vagabonds had been raiding American settlements north of the Florida-Georgia border. Jackson defeated the Seminole and pursued them into northwest Florida.

Jackson's campaign became an issue in American-Spanish relations. At the time of the campaign, the United States was negotiating for the acquisition of Florida from Spain. In 1821, two years after the United States acquired Florida, Jackson became provisional governor of the new territory. But he did not enjoy this post and served only four months.

Road to the presidency

Election of 1824. Jackson's military career had ended. At the age of 54, he was looking forward to the life of a country squire. But politicians began to talk of electing him President. They remembered him as the hero of the Battle of New Orleans. Jackson's friends and newspapers in Nashville called for his nomination as President. In 1822, the Tennessee legislature nominated him to run for President in 1824. In 1823, the legislature elected him to the U.S. Senate.

Jackson, now a dignified country gentleman, impressed Washington society. Representative Daniel Webster of Massachusetts commented in 1824 that "General Jackson's manners are more presidential than those of any of the candidates." Yet Jackson faced stiff



Detail of an engraving (1816) by Joseph Yeager, after a drawing by Benjamin West; The Hermitage, Nashville, Tenn. (Ladies Hermitage Association)

In the Battle of New Orleans, Jackson led American forces to victory over the British. The battle took place on Jan. 8, 1815, and made Jackson a national hero. The British commander, General Edward Pakenham, died in the fighting, *above.*

opposition in the election of 1824. Secretary of State John Quincy Adams regarded himself as the logical man to succeed President James Monroe. Representative Henry Clay of Kentucky hoped to be elected by winning the vote of the West. A congressional caucus nominated Secretary of the Treasury William H. Crawford for President. Each of the four candidates headed segments of the same party, the Democratic-Republican Party.

Jackson proved the popular favorite. He won 99 electoral votes, Adams received 84, and other candidates received 78 votes. But no candidate had a majority, so the election went to the House of Representatives, which voted by states. Clay threw his support to Adams, who won the presidency with the votes of 13 states. Seven states supported Jackson. Five days later, Adams named Clay as his secretary of state. The enraged Jackson and his supporters charged that the two men had made a "corrupt bargain." Adams denied Jackson's charge, but Jackson never believed him. Nor did Jackson ever forgive Adams or Clay. In the following years, Jackson and his supporters did their best to embarrass Adams. See **Adams, John Quincy** (Adams' Administration).

Jackson resigned from the Senate in 1825. He felt that his chances for winning the presidency in 1828 would be strengthened if he returned to private life.

Election of 1828. The presidential campaign of 1828 was one of the bitterest in American history. It split the Democratic-Republican Party permanently. It was also the first in which all nominations were made by state legislatures and mass meetings instead of by congressional caucuses.

Adams sought reelection, with Secretary of the Treasury Richard Rush as his vice presidential candidate. His supporters came to be known as *National Republicans.* Adams' opponents nominated Jackson for President. As his running mate, they named John C. Calhoun, who had served as Vice President under Adams. Jackson's supporters continued to call themselves *Republicans* or *Democratic-Republicans.* Historians trace the origin of the modern Democratic Party to this section of the Democratic-Republican Party. See **Democratic Party.**

Jackson fortunately gained the support of Martin Van Buren, a skilled and powerful New York politician. Van Buren persuaded key Southern politicians to rally behind Jackson. These leaders followed Van Buren partly because they felt his support for the idea of states' rights would allow for compromise on the question of whether slavery should be expanded. Van Buren also knew the importance of campaign tactics that took advantage of Jackson's military fame. Jackson's remarriage to Mrs. Robards became a campaign issue. Critics characterized it as scandalous. Some charged that Jackson had stolen Rachel from her husband.

Jackson won a sweeping victory, with 178 electoral votes to 83 for Adams. For votes by states, see **Electoral College** (table). Jackson received 642,553 popular votes to 500,897 for Adams. Crowds gathered at the Hermitage to congratulate Jackson. "I am filled with gratitude," he said. "Still, my mind is depressed." This remark referred to the political attacks on his wife.

Mrs. Jackson disliked public life. She preferred the comfort of her own room, with her Bible and a few close friends. On Dec. 22, 1828, she had a heart attack and died. She was buried in the garden of the Hermitage. Jackson remained convinced that the various slanders of the campaign led to his wife's death.

Jackson's first Administration (1829-1833)

When Jackson arrived in Washington, D.C., for his inauguration, he was still bitter at the politicians who had attacked his wife. He refused to call on President Adams.

The sun shone brightly on Jackson as he walked to the Capitol, followed by a huge crowd. The tall, lean Jackson stood straight as a soldier at the age of 61. His blue eyes shone from a face wrinkled with age and illness. He had suffered tuberculosis and coughed almost all the time. He also had many severe headaches.

"The Federal Constitution must be obeyed, state rights preserved, our national debt must be paid, direct taxes and loans avoided, and the Federal Union preserved," Jackson said in his inaugural address. "These are the objects I have in view, and regardless of all consequences will carry into effect."

Hundreds of cheering admirers rushed to shake Jackson's hand. Slowly he made his way down to unpaved Pennsylvania Avenue, mounted his horse, and headed for the White House. Carriages, wagons, and thousands of people on foot followed close behind. The throng swarmed into the White House and eagerly grabbed the cakes, ice cream, and orange punch that had been prepared for Jackson's reception. They stood on chairs, broke china, tore drapes, and even pushed the President aside. Jackson escaped through a window.

The spoils system. "The people expect reform," Jackson told Martin Van Buren, who became his secretary of state. "They shall not be disappointed; but it must be judiciously done, and upon principle." He wanted to destroy what seemed to him a monopoly of federal offices by wealthy individuals. He also intended to clear out incompetents in these offices.

Jackson rewarded many of his supporters with government jobs. This practice, which had long been used in state politics, was known as the *spoils system.* Jackson has often been described as a "spoilsman," but his replacement of Adams' supporters has been exaggerated.

He replaced about 920 out of about 11,000 federal employees during his first 18 months in office, or about 9 percent. He removed less than 20 percent during his entire Administration. Jackson believed that no federal employee should have a lifetime "right" to his or her job. He felt that his system of replacing workers made the government more democratic by allowing more people a chance to work for it. See **Spoils system.**

Political turmoil forced Jackson to limit regular Cabinet meetings during his first years in office. He relied on advice from loyal Cabinet members he consulted individually and from influential friends. Critics objected to Jackson's reliance on this unofficial "Kitchen Cabinet."

Life in the White House. Before Mrs. Jackson died, she had expressed the wish that her niece, Emily Donelson, should be given the opportunity to manage the White House for the President. Mrs. Donelson's husband, Andrew Jackson Donelson, became the President's private secretary. At various times, Mrs. Sarah Yorke Jackson, the wife of Jackson's adopted son, served as White House hostess.

The north portico of the White House was constructed during Jackson's Administration. The government committed more than $50,000 to redecorating of the mansion.

The President lived well and entertained a great deal. While expensive, fancy foods were served, he usually preferred a simple diet of rice, bread, vegetables, milk, and wine. Jackson kept his race horses in the White House stables. He entered them in races under his secretary's name. He enjoyed horseback riding for recreation.

Split with Calhoun. An argument over Peggy O'Neale Eaton caused a split in Jackson's family and in his Cabinet. Mrs. Eaton, the wife of Secretary of War John H. Eaton, was the daughter of an innkeeper and the widow of a naval officer, who, according to rumor, had committed suicide because of his wife's unfaithfulness. The wives of several Cabinet members, led by Mrs. John Calhoun, refused to accept her into Washington society. The Donelsons returned to Tennessee for six months rather than accept Mrs. Eaton in the Executive Mansion. See **O'Neale, Peggy.**

Jackson associated the gossip against Mrs. Eaton with the political attacks against his own wife. He also came to regard the affair as an attempt by Calhoun to gain power for himself. A break between the two men developed.

In 1831, both Eaton and Van Buren resigned in order to provide Jackson more freedom in reorganizing his new Cabinet. The other Cabinet members felt obliged to follow their example. Jackson then appointed anti-Calhoun men as successors to Ingham, Berrien, and Branch.

Another dispute completed the split between Jackson and Calhoun. It ended Calhoun's hopes of succeeding Jackson in the presidency. Early in 1828, Congress had passed a law that increased tariff rates on foreign manufactured goods. Calhoun complained that the law hurt his native state of South Carolina. He secretly wrote the South Carolina Exposition. In this document, Calhoun claimed that a state could *nullify* (reject) any law passed by Congress which the state believed had violated the Constitution. Some supporters of nullification hoped to get Jackson on their side. They invited him to a dinner celebrating Thomas Jefferson's birthday, on April 13, 1830. Jackson stood up to make a toast, raised his glass, looked at Calhoun, and solemnly declared: "Our Federal Union: It must be preserved." The stunned audience stood in silence. Then Calhoun proposed a toast: "The Union, next to our liberty, most dear."

The Bank of the United States. Jackson's fight against the Bank of the United States became the major issue of his first Administration. In 1816, Congress had granted the bank a 20-year charter. The bank had author-



Oil portrait on canvas (1830) attributed to Ralph E. W. Earl; © White House Historical Association (photography by the National Geographic Society)

Emily Donelson, Rachel Jackson's niece, managed the White House and served as Jackson's hostess at most social events. Her husband was the President's private secretary.

Vice Presidents and Cabinet

Vice President	*John C. Calhoun *Martin Van Buren (1833)
Secretary of state	*Martin Van Buren Edward Livingston (1831) Louis McLane (1833) John Forsyth (1834)
Secretary of the treasury	Samuel D. Ingham Louis McLane (1831) William J. Duane (1833) *Roger B. Taney (1833) Levi Woodbury (1834)
Secretary of war	John H. Eaton *Lewis Cass (1831)
Attorney general	John M. Berrien *Roger B. Taney (1831) Benjamin F. Butler (1833)
Postmaster general	John McLean William T. Barry (1829) Amos Kendall (1835)
Secretary of the Navy	John Branch Levi Woodbury (1831) Mahlon Dickerson (1834)

*Has a separate biography in *World Book.*

ity over the currency system. It could stop state banks from issuing too much paper money. The Bank of the United States could also prevent state banks from making loans without enough security. State banks in the South and West were usually freer in extending credit and loans than the more conservative Eastern banks. Western and Southern farmers who could not get new loans or renew old ones denounced the Bank of the United States for restricting the power of local banks.

Jackson disliked the bank for economic as well as political reasons. He thought the law that had created the bank was unconstitutional. Jackson favored a "hard money" policy. That is, he believed currency would be more reliable if paper money was based strictly on *specie,* or gold and silver. Jackson called the bank a monopoly and said its vast powers threatened the government. The bank had meddled in politics and its political supporters, including Senators Henry Clay and Daniel Webster, opposed Jackson.

In 1832, Congress passed a bill rechartering the bank. This recharter, however, came four years early. Jackson interpreted it as a direct attack on his reelection campaign and charged that the bank's president, Nicholas Biddle, was misusing bank funds to support Clay. Jackson vetoed the recharter bill. This action drew strong criticism from Biddle. Biddle's congressional supporters tried to override the President's veto, but failed. See **Bank of the United States; Biddle, Nicholas.**

Election of 1832 was a milestone in American political history. For the first time, national political conventions chose the candidates for President. Before this time, the candidates had been nominated by state legislatures, mass meetings, or congressional caucuses.

In December 1831, Jackson's opponents nominated Henry Clay for President. They chose John Sergeant, head of the legal staff of the Bank of the United States, for Vice President. Jackson's supporters also met in Baltimore, in May 1832. The delegates nominated Jackson for President and Martin Van Buren for Vice President.

The fight to recharter the Bank of the United States became the chief issue of the 1832 presidential campaign. Jackson won an overwhelming victory.

The nullification crisis. In 1832, Congress passed another high-tariff act. On November 24, South Carolina declared the tariff laws of 1828 and 1832 null and void. It threatened to *secede,* or leave the Union, if the government tried to collect duties at Charleston.

Jackson and Senator Robert Y. Hayne of South Carolina reacted to the crisis in opposite ways. Hayne resigned from the U.S. Senate and won election as governor of South Carolina. On Dec. 10, 1832, Jackson ordered troops and warships to be concentrated near Charleston. "The laws of the United States must be executed," he proclaimed. "I have no discretionary power on the subject. ... Disunion by armed force is treason." Hayne vowed to defend his state's sovereignty or die "beneath its ruins." On December 28, Calhoun resigned the vice presidency and took over Hayne's Senate seat.

Upon Jackson's demand, Congress then passed a force bill. This law authorized him to use the armed forces to collect tariffs (see **Force bill**). At the same time, Senator Henry Clay pushed through a compromise tariff bill that reduced all tariffs for 10 years. South Carolina withdrew its nullification of the tariff laws, but declared the force law null and void. This step did not settle the nullification issue. The controversy rose several times in later years. Jackson's stand against nullification angered states' rights supporters in his party and strengthened the opposition in the South. See **Nullification.**

Highlights of Jackson's Administrations

1830	Senators Daniel Webster and Robert Y. Hayne debated states' rights.
1832	Jackson vetoed a bill to renew the charter of the Bank of the United States.
1832	Settlers drove the Black Hawk Indians from Illinois.
1832	South Carolina declared the federal tariff laws null and void. Jackson then sent U.S. troops to the state.
1832	John C. Calhoun resigned as Vice President.
1833	Jackson removed government funds from the Bank of the United States.
1834	The Senate rejected a Cabinet nominee for the first time—Roger B. Taney as secretary of the treasury.
1835	U.S. troops forced the Seminole Indians to retreat to the Florida Everglades.
1836	Texas declared independence. Jackson's *Specie Circular* required payment in gold or silver for public lands.

Jackson's second Administration (1833-1837)

The bank issue. Jackson properly interpreted his reelection as public approval of his bank policy. He ordered Secretary of the Treasury Louis McLane to remove the government's deposits from the Bank of the United States and place them in state banks. Both McLane and his successor, William J. Duane, refused to carry out Jackson's order. Duane had been appointed even though Jackson knew that he opposed the President's bank policy. Jackson had thought that he could influence Duane.

After Duane refused to act, Jackson named Roger B. Taney to the office. Taney carried out the order. In 1834, however, the Senate rejected Jackson's nomination of Taney. This was the first time a Cabinet nominee had been rejected. See **Taney, Roger B.**

The withdrawal of the government's funds reduced the powers of the national bank. In 1836, it became the Bank of the United States of Pennsylvania.

In 1834, the United States Senate voted to criticize Jackson's bank policy. Through the years, this vote has been called a censure. But the vote did not mention the word censure. In 1837, Jackson's allies won control of the Senate, and revoked the 1834 resolution.

The money surplus. The dispute over the Bank of the United States occurred during a period of heavy speculation in land, the opening of the West, and increased foreign trade. The government was receiving more money from tariffs and the sale of public land than it was spending. On Jan. 8, 1835, Jackson paid off the

Jackson's second election*

Place of nominating convention	Baltimore
Ballot on which nominated	1st
National Republican opponent	Henry Clay
Electoral vote†	219 (Jackson) to 49 (Clay)
Popular vote	701,780 (Jackson) to 484,205 (Clay)
Age at inauguration	65

*This was the first election in which national conventions nominated presidential candidates.
†For votes by states, see **Electoral College** (table).

final installment of the national debt. He was the only President ever to do so. Congress provided that any surplus above $5 million should be divided among the states in 1837 as a loan. But a depression struck in 1837 before the money from the government could be distributed to all the states. The prospect of more money in circulation had encouraged speculation. Many states spent recklessly on huge public construction programs. Hundreds of "wildcat banks" issued their own money (see **Wildcat bank**).

By 1836, most banks had only 1 gold dollar in reserve for every 10 or 12 paper dollars in circulation. As a result, the value of money dropped steadily. Inflation became so serious that Jackson hastened to act before the boom crumbled. On July 11, 1836, he issued his *Specie Circular.* It directed government agents to accept only gold and silver in payment for public lands. This order shocked the West because speculators there had been buying land with "cheap" paper money. The circular helped end speculation in land. But prices, interest rates, and wages continued to rise. The inflation of money, overexpansion of business, and overinvestment in public improvements brought on a depression that struck shortly before Jackson left office. This business slump became known as the Panic of 1837. See **Van Buren, Martin** (The Panic of 1837).

The Indian issue. As a soldier, Jackson had fought Indians. After the War of 1812, he helped negotiate important Indian treaties and greatly influenced the government's Indian policy. Most modern historians believe Jackson did not hate the Indians, but he believed that the government should treat them as wards of the nation and not as members of independent foreign powers. He doubted that Indians and white people could live together, and therefore favored moving the Indians in the East to the West.

In 1828, Georgia passed laws that gave the Cherokee Indians no legal protection if the state seized their lands. The Cherokee protested that the federal government had guaranteed them this land by treaty. They claimed that a state could not nullify a federal contract. In this controversy, Jackson did not support the rights of the federal government as he had done in the nullification crisis. Instead, he told the Cherokee that he "had no power to oppose the exercise of sovereignty of any state over all who may be within its limits." Alabama and Mississippi seized the lands of the Choctaw and Chickasaw. The Cherokee then took their own case to the Georgia supreme court. Eventually the case, *Cherokee Nation v. Georgia,* reached the Supreme Court of the United States, which dismissed the Cherokee suit in 1831. But in a later case, *Worcester v. Georgia* (1832), the court ruled that the federal government had exclusive jurisdiction over Indian territory.

Jackson's supporters in Congress helped win approval of the Indian Removal Act of 1830. The act called for the removal of the Indian tribes east of the Mississippi River and their relocation on land west of that river. By the end of Jackson's Administration, almost all Indians east of the river—including the Creek, Cherokee, Choctaw, and Chickasaw—had signed treaties to move west of the Mississippi. Thousands of Indians, cheated out of their land, died during the forced migration. Most of the Seminole refused to move. From 1835 to 1842, they fought U.S. troops in Florida. By the time the fighting ended, most of the Seminole had surrendered or been captured and had been sent to the West.

Foreign affairs. After the Revolutionary War, Britain had prohibited American ships from trading in the West Indies. In 1830, Jackson offered to open American ports to the British if Americans received equal trading rights in the West Indies. Britain accepted the offer.

Jackson achieved another success when he persuaded France to pay its long-standing "spoliation," or

Quotations from Jackson

The following quotations come from some of Andrew Jackson's speeches and writings.

As long as our Government is administered for the good of the people, and is regulated by their will; as long as it secures to us the rights of person and of property, liberty of conscience and of the press, it will be worth defending. . . .

First Inaugural Address, March 4, 1829

Our Federal Union: It must be preserved.

Toast given at a dinner, April 13, 1830

. . . if I have mistaken the interests and wishes of the people the Constitution affords the means of soon redressing the error by selecting . . . a citizen whose opinions may accord with their own.

Message to Congress, Dec. 6, 1830

There are no necessary evils in government. Its evils exist only in its abuses. If it would confine itself to equal protection, and, as Heaven does its rains, shower its favors alike on the high and the low, the rich and the poor, it would be an unqualified blessing.

Message to Congress vetoing the renewal of the charter of the Second Bank of the United States, July 10, 1832

I repeat to the union men again, fear not, the union will be preserved and treason and rebellion promptly put down, when and where it may show its monster head.

Letter to Joel R. Poinsett, a South Carolina political leader, regarding the state's threat to secede, Jan. 24, 1833

In the domestic policy of this Government there are two objects which especially deserve the attention of the people and their representatives. . . . They are the preservation of the rights of the several States and the integrity of the Union.

Second Inaugural Address, March 4, 1833

Without union our independence and liberty would never have been achieved; without union they never can be maintained.

Second Inaugural Address, March 4, 1833

One word to you as to matrimony—seek a wife, one who will aid you in your exertions . . . for you will find it easier to spend two thousand dollars, than to make five hundred. Look at the economy of the mother and if you find it in her you will find it in the daughter.

Letter to Andrew J. Hutchings, Jackson's ward, April 18, 1833

. . . in order to maintain the Union unimpaired it is absolutely necessary that the laws passed by the constituted authorities should be faithfully executed in every part of the country, and that every good citizen should at all times stand ready to put down, with the combined force of the nation, every attempt at unlawful resistance. . . .

Farewell Address, March 4, 1837

plundering, claims. French ships had attacked American shipping during the Napoleonic Wars of the early 1800's. In 1831, France agreed to pay for the damages in six annual installments. But France failed to make the first payment. Jackson then asked Congress to increase military expenditures. France was angered by Jackson's action and recalled its minister. In 1836, Jackson announced that France had paid four installments with interest. The two nations then resumed diplomatic relations.

Slavery and Texas. During this period, the admission of any state into the Union was linked with the slavery controversy. A new chapter in the dispute developed in 1831 when William Lloyd Garrison began publishing *The Liberator,* an antislavery newspaper (see **Abolition movement**). In 1835, Texas revolted against Mexico. Americans believed that an independent Texas would soon be annexed to the United States, with its area divided into several states. Such a move would affect the balance between the North and South. This balance had been maintained since Missouri joined the Union in 1821 (see **Missouri Compromise**). Antislavery forces opposed the admission of Texas, or even the recognition of an independent Texas.

Jackson had long felt that Texas should be part of the United States. But he hesitated, fearing that recognition of Texas would damage Martin Van Buren's chances for the presidency in 1836. Later, Van Buren's election opened the way for Jackson to act. Jackson used his last day as President to establish diplomatic relations with the Republic of Texas. See **Texas** (History).

Later years

After seeing his friend Martin Van Buren sworn in as President, Jackson returned to the Hermitage. White-haired and sick with tuberculosis and dropsy, Jackson still stood erect. He rode horseback in the mornings and watched over his cotton fields. He continued his interest in national politics and supported Van Buren's unsuccessful bid for reelection in 1840. In 1844, Jackson supported fellow Democrat James K. Polk, who won.

Jackson died on June 8, 1845. He was buried beside his wife in the garden of the Hermitage. James C. Curtis

Related articles in *World Book* include:

Adams, John Quincy
Bank of the United States
Calhoun, John C.
Clay, Henry
Democratic Party
Force bill
Indian wars (In the South)
Kitchen Cabinet
Nullification
O'Neale, Peggy
President of the United States
Spoils system
Taney, Roger Brooke
United States, History of the (Jacksonian democracy)
Van Buren, Martin
War of 1812

Outline

I. **Early life**
  A. Boyhood and education
  B. The Revolutionary War
  C. Lawyer
  D. Jackson's family
  E. Business and politics
II. **Jackson the soldier**
  A. The Battle of Horseshoe Bend
  B. Glory at New Orleans
  C. Florida expedition
III. **Road to the presidency**
  A. Election of 1824
  B. Election of 1828
IV. **Jackson's first administration (1829-1833)**
  A. The spoils system
  B. Life in the White House
  C. Split with Calhoun
  D. The Bank of the United States
  E. Election of 1832
  F. The nullification crisis
V. **Jackson's second administration (1833-1837)**
  A. The bank issue
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  E. Slavery and Texas
VI. **Later years**



Ladies Hermitage Association

The Hermitage, Jackson's home, is near Nashville, Tennessee. It was completed in 1819, damaged by fire in 1834, and rebuilt in 1835. Jackson and his wife are buried on its grounds.

Questions

What was Jackson's nickname? How did he get his nickname?
How did the Revolutionary War in America bring tragedy to Jackson?
How did Jackson meet the nullification crisis?
Why did Jackson not become President in 1824, even though he received the most electoral votes?
What statement of principles did Jackson announce at his first inauguration?
What were two of Jackson's achievements in foreign affairs?
How did Jackson become a national hero?
Why were Jackson and John Calhoun political enemies?
How did Jackson's attitude toward the Cherokee Indians in the 1830's differ from his earlier stand in the nullification crisis?
Why did Jackson dislike the Bank of the United States?

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Jackson, Helen Hunt (1830-1885), became best known for her efforts to secure justice for the American Indians. In *A Century of Dishonor* (1881), she documented the history of the United States government's mismanagement of Indian affairs. She presented a copy of the book to every member of Congress. She then be-

came special commissioner to investigate conditions of the Indians living in the California missions. In her novel *Ramona* (1884), Jackson dramatized the mistreatment of the mission Indians. Jackson was born in Amherst, Massachusetts. Robert F. Berkhofer, Jr.

Jackson, Jesse Louis (1941-), is an African American civil rights activist, political leader, and Baptist minister. He was a candidate for the Democratic presidential nomination in 1984 and 1988. In both campaigns, Jackson focused attention on the problems of African Americans and other minority groups. Jackson also led efforts to register more black voters and to increase representation of minority groups at the 1984 and 1988 Democratic national conventions. He failed to get the presidential nomination at either convention. But he gained fame as one of the most effective orators in U.S. politics.


AP/Wide World
Jesse L. Jackson

Jackson was born on Oct. 8, 1941, in Greenville, South Carolina. He graduated from North Carolina Agricultural and Technical State University and attended the Chicago Theological Seminary, leaving in 1966 to work in the civil rights movement. Many years later, Jackson completed his coursework at the seminary. He received a Master of Divinity degree in 2000.

From 1966 to 1971, Jackson was director of Operation Breadbasket, the economic arm of the Southern Christian Leadership Conference. In this role, he persuaded many white-owned companies to hire blacks and to sell products made by black-owned firms.

In Chicago in 1971, Jackson founded People United to Save Humanity (PUSH), an organization devoted to gaining economic power for blacks. In the mid-1970's, the organization's name was changed to People United to Serve Humanity. It was also known as Operation PUSH. Jackson directed Operation PUSH until 1984, when he founded and became head of the Rainbow Coalition. The coalition was a group dedicated to gaining political power for blacks and others. In 1995, Jackson resumed his leadership of Operation PUSH while continuing to head the Rainbow Coalition. In 1996, the two organizations merged as the Rainbow PUSH Coalition, and Jackson became the new group's president.

Jackson made several trips abroad that resulted in the freeing of hostages or other prisoners. In 1984, for example, he obtained the release of a captured U.S. airman whose plane had been shot down by Syrian forces in Lebanon. In 1999, Jackson helped arrange the release of three U.S. soldiers taken prisoner by Yugoslavia.

In 1989, Jackson was awarded the Spingarn Medal for his civil rights and political achievements. In 1999, Jackson led protests against a school district in Decatur, Illinois. The district had expelled six African American students for two years for allegedly starting a fight during a football game. Jackson claimed that many schools' "zero tolerance" policies against violence were unfair. The district later reduced the students' expulsions to one year.

In 2001, Jackson revealed that he was the father of a child born outside of his marriage in 1999. Some people claimed that this revelation weakened his authority as a moral and religious leader.

Since 1995, Jackson's son Jesse, Jr., has represented an Illinois district in the U.S. House of Representatives.

Alton Hornsby, Jr.

Jackson, Mahalia (1911-1972), was the best-known gospel singer in the world. Her singing combined powerful vitality with dignity and strong religious beliefs. She disliked being identified with nonreligious music, but her singing style revealed the influence of jazz.

Jackson was born on Oct. 26, 1911, in New Orleans. She sang in the choir of the church of which her father was minister. In 1927, she moved to Chicago, where she became a soloist in the choir of a Baptist church. She began to record in the 1930's and sang on gospel tours.

Jackson's 1947 recording "Move On Up a Little Higher" sold over 1 million copies. By the late 1940's, she was attracting large audiences among the general public. She became associated with the civil rights movement in the 1960's. Frank Tirro

Jackson, Michael (1958-), an American singer, dancer, and songwriter, has been one of the most popular and exciting performers of rock music. His album *Thriller* (1982) is one of the most popular albums ever recorded. Jackson wrote four of its songs, including the hits "Beat It" and "Billie Jean."


Epic Records
Michael Jackson

Jackson's music has a strong rhythm and steady dance beat that combines elements of soul, rhythm and blues, and rock. His rhythmic dancing highlights his live performances. Jackson starred in several popular short films called *music videos.* The music video of the song "Thriller" is a 13-minute horror film that combines singing and dancing with spectacular visual and sound effects.

Michael Joseph Jackson was born on Aug. 29, 1958, in Gary, Indiana, and began performing locally with his brothers when he was 5 years old. In 1968, the brothers signed with Motown Records and took the name the Jackson Five. Michael was the group's lead singer and dancer. His first solo album, *Got to Be There,* was released in 1972. In 1975, the Jackson Five switched to Epic Records. The group began recording as the Jacksons in 1976. Michael established himself as a solo singer with the album *Off the Wall* (1979).

Janet Jackson, Michael's sister, is also a major rock star. Don McLeese

See also Television (picture: Music videos).

Jackson, Robert Houghwout (1892-1954), an American lawyer and judge, served as an associate justice of the Supreme Court of the United States from 1941 until his death. He was one of the most brilliant of the group of lawyers brought into public service by President Franklin D. Roosevelt during the early days of the New

Deal (see New Deal). He served as solicitor general in 1938 and 1939, and defended New Deal laws in Supreme Court hearings. In 1940 and 1941, he was attorney general. As a Supreme Court justice, Jackson showed independence, and argued that judges should try to keep their judgments free from personal opinion. In 1945 and 1946, Jackson was chief U.S. prosecutor at the war crimes trials in Nuremberg, Germany. He was born in Spring Creek, Pa. Merlo J. Pusey

Jackson, Shirley (1916-1965), was an American novelist and short-story writer known for her tales of psychological horror. Her most popular novel is probably *The Haunting of Hill House* (1959). This story of the supernatural describes the tragic effects of hatred. Her other novels include *The Road Through the Wall* (1948), *Hangsaman* (1951), *The Bird's Nest* (1954), *The Sundial* (1958), and *We Have Always Lived in the Castle* (1962).

Jackson's best-known short story, "The Lottery" (1948), tells of gruesome human sacrifice in a seemingly ordinary small American town. Some of her other short stories deal with such social issues as prejudice and the loneliness of modern American women. Several of these works are more realistic than her novels. Jackson also wrote humorously about her four children in two fictionalized autobiographies, *Life Among the Savages* (1953) and *Raising Demons* (1957).

Jackson was born in San Francisco. She was married to literary critic Stanley Edgar Hyman. Victor A. Kramer

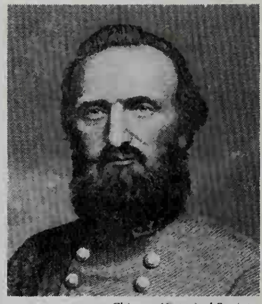
Jackson, Shoeless Joe (1888-1951), was the most famous of eight Chicago White Sox players banned from baseball in 1920. They were banned for supposedly accepting bribes to make Chicago lose the 1919 World Series to Cincinnati. An Illinois court found all eight innocent of conspiracy, though some had confessed to involvement in the scheme. Despite the verdict, Baseball Commissioner Kenesaw Mountain Landis decided the eight players could never again play professional baseball. See **Baseball** (The Black Sox Scandal).

Joseph Jefferson Jackson was born in Brandon Mills, S.C. He received his nickname in 1908 while playing in the minor leagues. Troubled by blisters from a new pair of shoes, Jackson played in his stocking feet. A fan gave him the nickname Shoeless Joe. Jackson played his first full major league season in 1911 and became an outfielder for the White Sox in 1915. Jackson's .356 career batting average ranks him behind only Ty Cobb and Rogers Hornsby in major league history.

In the 1919 World Series, Jackson batted .375 and made no fielding errors. Many historians believe Jackson was unfairly judged. In 1989, the South Carolina state senate asked to have Jackson freed from blame. However, Baseball Commissioner A. Bartlett Giamatti denied the request. Donald Honig

Jackson, Stonewall (1824-1863), was one of the most famous Confederate generals and one of the best officers who fought under General Robert E. Lee. At the First Battle of Bull Run, or Manassas, Jackson's brigade faced overwhelming odds, but formed a strong line and held its ground. General Barnard E. Bee, trying to rally his Southern troops, saw Jackson's line and shouted, "There is Jackson standing like a stone wall. Rally behind the Virginians!" After that, Jackson was known as "Stonewall," and his brigade as the *Stonewall Brigade.*

Jackson's chief characteristics were his religious nature, his careful attention to military detail, his firm discipline, and his capacity to get the maximum efforts from his men. His soldiers loved him and trusted his ability, and so they tolerated his strict discipline.


Chicago Historical Society
Stonewall Jackson

Generals Lee and Jackson understood each other perfectly. The two worked so well together that General Lee could not find a man capable of replacing Jackson after his death.

Early career. Thomas Jonathan Jackson was born in Clarksburg, Va. (now West Virginia), on Jan. 21, 1824. Orphaned at an early age, he was raised by an uncle, Cummins Jackson, a miller who lived near what is now Weston, W. Va. Thomas received sketchy schooling in country schools. But he worked hard and secured an appointment to the U.S. Military Academy in 1842. His career there represented a triumph of sheer willpower. Because of his inadequate schooling, he had to work several times harder than most cadets to absorb lessons. But his grades slowly climbed until he graduated in the upper third of his class. The story went around the school that if Jackson had had one more year, he would have ranked first.

As soon as he received his commission as a lieutenant of artillery, Jackson was assigned to the war zone in Mexico. There he first met Robert E. Lee. Jackson served at Veracruz, Contreras, Chapultepec, and Mexico City, and rose to the temporary rank of major within a year.

After the Mexican War ended, Jackson served at various forts. In 1850, his company went to Florida to fight the Seminole Indians. Jackson left the army in 1851 and joined the faculty of the Virginia Military Institute at Lexington, where he taught until 1861. He was not popular as a teacher, and the students mocked his apparently stern, religious nature and his eccentric traits. In 1853, he married Elinor Junkin, who died the next year. In 1857, he married Mary Anna Morrison.

Although he favored preservation of the Union, Jackson went with his state, Virginia, when it seceded. An unknown when the war started, he soon made a reputation in the First Battle of Bull Run. In the Shenandoah Valley in 1862, Jackson earned international fame. With not more than 17,000 men, he defeated 60,000 Union troops in a series of lightning marches and brilliant battles. After the campaign ended in June, Jackson raced to the aid of Lee at Richmond. He fought in the Seven Days' Battles, and at Cedar Mountain, the Second Battle of Bull Run, Antietam (Sharpsburg), and Fredericksburg.

Tragic death. Jackson fought his greatest battle in May 1863. He took his Second Corps around Union forces near Chancellorsville, Va. Jackson's men struck from behind and drove the enemy back in wild disorder. At nightfall, Jackson went ahead of the line to scout. In the darkness, some of his own men mistook him for the enemy and shot him. As Jackson lay wounded, doctors amputated his left arm. Lee remarked: "He has lost his left arm; but I have lost my right arm." Jackson died of pneumonia on May 10, eight days after he was shot. The

Confederate Army won the battle in which Jackson fell. But his death more than offset the victory.

Jackson was buried at Lexington, Virginia. He was elected to the Hall of Fame for Great Americans in 1955.

John F. Marszalek

See also **Civil War; West Virginia** (Places to visit [Jackson's Mill]).

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Jackson, William Henry (1843-1942), was an American photographer famous for his pictures of the Old West. His photographs of the hot springs and geysers of the Yellowstone region of Wyoming helped persuade Congress to establish the first national park there in 1872. Jackson took many of the first true-to-life pictures of Indians. These pictures, Jackson's spectacular landscapes, and his photos of pioneers and settlers provided a realistic view of the West.

Jackson was born in Keesville, New York. In 1868, he opened a photography studio in Omaha, Nebraska. Jackson traveled throughout the West, often with government geological survey teams. Mules carried his heavy equipment. Negatives produced by one of his cameras measured 20 by 24 inches (51 by 61 centimeters), which even at that time was unusually large. He opened a studio in Denver in 1879. An example of Jackson's work appears in the **Wyoming** article. Charles Hagen

Jacksonville is the largest city in Florida and the state's financial and insurance capital. It is also an important seaport and a major distribution and transportation center of the southeastern United States. In area, Jacksonville ranks as one of the largest cities in the United States.

Jacksonville lies in northeastern Florida, midway between Atlanta, Georgia, and Miami, Florida. The city lies along the St. Johns River and is bordered on the east by the Atlantic Ocean (see **Florida** [political map]).

Jacksonville developed around a *ford* (shallow place) in the St. Johns River. Indians and early colonists drove their cattle across this ford, which became known as *Cow Ford.* Isaiah D. Hart, a Georgia plantation owner, moved to the Cow Ford area in 1821. The next year, he mapped out a town. He named it *Jacksonville* for Andrew Jackson, the provisional governor of the Territory of Florida. Jackson later became president of the United States. Jacksonville began to grow and prosper during the 1870's with the development of its first industries, lumbering and shipping.

The city covers 834 square miles (2,160 square kilometers), including 74 square miles (192 square kilometers) of inland water. It occupies almost all of Duval County. The metropolitan area of Jacksonville covers 2,836 square miles (7,345 square kilometers) and extends over four counties.

The St. Johns River divides Jacksonville into two sections. Seven bridges link the two parts of the city. Downtown Jacksonville lies on both the north and south banks of the river. The Jacksonville Landing shopping mall along the north bank is a center of activity in the downtown business district. The Times-Union Center for the Performing Arts stands west of the Jacksonville Landing. Concerts, conventions, exhibitions, and plays are held at the performing arts center. City Hall and the Duval County Court House lie on the north bank. The Prime F. Osborn III Convention Center, to the west of downtown, is linked with the business district by an elevated people mover system.

On the south bank, the St. Johns River Park and Marina features the lighted Friendship Fountain, one of the tallest lighted fountains in the United States. It shoots water 120 feet (37 meters) into the air. The Riverwalk, a boardwalk about 1 $\frac{1}{2}$ miles (2 kilometers) long, stretches along the river's south bank. Restaurants and hotels line the Riverwalk, which also features entertainment areas where performers such as musicians and mimes appear.

People. African Americans make up about 30 percent of the population of Jacksonville. Other groups in the

Facts in brief

Population: *City*—735,617. Metropolitan area—1,100,491.
Area: *City*—834 mi² (2,160 km²). *Metropolitan area*—2,836 mi² (7,345 km²).
Climate: *Average temperature*—January, 55 °F (13 °C), July, 82 °F (28 °C). *Average annual precipitation* (rainfall, melted snow, and other forms of moisture)—54 in (137 cm).
Government: Mayor-council. *Terms*—4 years.
Founded: 1822. Incorporated as a town, 1832; as a city, 1859.



© James H. Johnson

Jacksonville lies on the northeastern coast of Florida. It is the state's insurance and financial center and its largest city. It was named for Andrew Jackson, who was the provisional governor of the Territory of Florida and who later became U.S. president. The city seal bears a silhouette of Jackson on a horse.



city include people of Basque, English, Filipino, German, and Irish descent.

In the 1970's, the city received over $25 million in federal funds to build low-cost housing. Religious groups have built eight high-rise apartment buildings and a health center, all for the elderly.

Economy. Jacksonville serves as the main financial and insurance center of Florida. It is a major banking center, and about 35 insurance companies have their home or regional offices there.

Jacksonville is also a leading distribution and transportation center of the southeastern United States. Many retail and wholesale warehouses serve the city. Jacksonville is one of Florida's busiest ports. Shipbuilding and ship repair are also important industries. The U.S. Navy operates the Mayport Naval Base and a naval air station in the city.

Jacksonville International Airport, railroad passenger trains, and a nationwide bus company serve Jacksonville. Two railroads and about 100 trucking firms provide freight service to the city.

Jacksonville has about 700 factories that employ about 30,000 people. Food processing is the chief industry. Other important industries include printing and publishing and the manufacture of chemicals, fabricated metal products, heavy machinery parts, paints, paper and pulp products, and plastics. The city has one daily newspaper, *The Florida Times-Union.*

Education. More than 100,000 students attend about 150 public elementary and high schools in Jacksonville. About 20,000 students attend the city's 75 private and church-supported schools. A seven-member School Board runs the public school system. The people elect the board members to four-year terms, and the board names a superintendent.

Universities and colleges in the city include Jacksonville University, the University of North Florida, and Edward Waters College. Jacksonville is also the home of Florida Community College at Jacksonville, a two-year college. The Haydon Burns Library, Jacksonville's public library, consists of the main library in the downtown area and about 15 branches.

Cultural life and recreation. The Jacksonville Symphony Orchestra performs at the Times-Union Center for the Performing Arts and the Florida Theatre. The Florida Theatre was built as a movie house in 1927. Local arts groups restored the building, and the city government purchased it in the mid-1980's. Other concerts and plays are presented at the performing arts center and the Florida Theatre.

The Florida Ballet at Jacksonville is the city's professional dance company. The city has several community theater groups. The Jacksonville Museum of Contemporary Art and the Cummer Gallery of Art exhibit works of locally and nationally known artists. The Museum of Science and History features a planetarium.

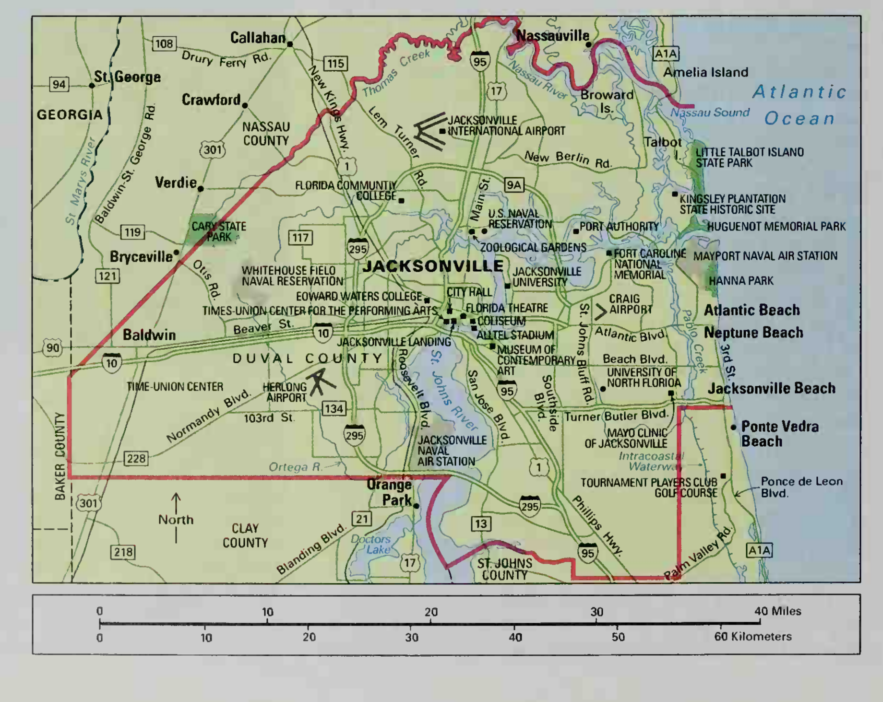
Fort Caroline National Memorial, a reconstructed fort, stands northeast of the downtown area. The fort is near the site of the original Fort Caroline, which *Huguenots* (French Protestants) built in 1564. Near the fort is the Kingsley Plantation State Historical Memorial. A slave trader named Zephaniah Kingsley built the plantation in 1813. Treaty Oak, which is near downtown Jacksonville, is a city landmark. Timucua Indians and European settlers are believed to have made a peace pact under the tree in the 1500's. The trunk of Treaty Oak is 15 feet (4.6 meters) in diameter.

Jacksonville has a huge sports center. This center includes a baseball park, the 8,000-seat Jacksonville Coliseum, and the 73,000-seat Alltel Stadium. This stadium serves as the home of the Jacksonville Jaguars of the National Football League. In addition, it is the site of the annual Gator Bowl football game between two top college teams. The annual Players Championship golf tourna-

Jacksonville



Jacksonville, Florida's largest city, lies in the northeastern part of the state. The large map shows the city's major points of interest.



City boundary
County boundary
Expressway
Other road
Railroad
Point of interest
Park

WORLD BOOK maps

ment takes place just outside of Jacksonville. A major tennis tournament, the Bausch & Lomb Championships, is held yearly at nearby Amelia Island.

Jacksonville has more than 300 parks, playgrounds, and community centers. They cover a total of nearly 8,500 acres (3,440 hectares). The Jacksonville Zoological Gardens has more than 800 animals. Boating and other water sports are popular in Jacksonville. The city has 21 public boat landings and several beaches.

Government. Jacksonville has a mayor-council form of government. The people elect the mayor, the 19 City Council members, and other city officials to four-year terms. The city gets most of its income from property taxes, sewer service charges, and utility taxes.

In 1968, Jacksonville and Duval County *consolidated* (combined) their governments. They took this action to achieve greater efficiency by ending the duplication of many activities and services. Under the consolidated government, the police and fire departments have been improved, more than 1,000 miles (1,600 kilometers) of streets have been paved or repaired, and thousands of street lights have been installed.

History. Timucua Indians lived in the Jacksonville area long before Europeans first arrived. In 1564, a group of Huguenots led by René de Laudonnière built Fort Caroline in the area. But Spain claimed the entire Florida region and was determined to keep the French out. In 1565, Spanish forces defeated the French colony at Fort Caroline in what was probably the first war between white people in America.

The United States gained control of Florida in 1821. The next year, Isaiah D. Hart founded Jacksonville. It was chartered as a town in 1832 and as a city in 1859. By 1860, Jacksonville had about 2,100 people. During the American Civil War (1861-1865), both sides fought for the city, and Union forces occupied it four times.

During the 1870's, lumbering and shipping became Jacksonville's first major industries. The city's mild climate also began to attract many winter vacationers from the North. The increase in tourism led to the opening of the first direct railroad line between Jacksonville and the North in 1888.

Also in 1888, a yellow fever epidemic swept through Jacksonville and killed 427 people. The city grew rapidly during the late 1800's, and by 1900, it had a population of 28,429. Tragedy struck again in 1901, when a fire raged through the city, destroying 2,368 buildings in a 466-acre (189-hectare) area. The fire killed 7 people, left about 10,000 homeless, and destroyed about $15 million worth of property. But the people united and quickly rebuilt their city. By 1920, Jacksonville's population had jumped to 91,558. The area south of the St. Johns River became part of the city in 1934. By 1940, 173,065 people lived in Jacksonville.

During World War II (1939-1945), the U.S. government established the Mayport Naval Base and two naval air stations in Jacksonville. After the war, many people moved from the city to suburban areas. Between 1950 and 1960, Jacksonville's population declined from 204,517 to 201,030. But the population of Duval County rose from 304,029 to 455,111. Jacksonville and Duval County consolidated their governments in 1968. As a result of this action, Jacksonville rose in rank from the nation's 61st to 23rd largest city in population.

In the mid-1960's, Jacksonville officials began working to expand the city's industries and to attract new ones. An industrial park for factories and warehouses was built during the 1970's, and the city has carried out a port development program.

In the mid-1980's, Jacksonville began redevelopment of the downtown areas on both banks of the St. Johns River. The city's major projects included the Jacksonville Landing shopping mall and the Prime F. Osborn III Convention Center, which was built in a converted railway station dating to 1919. Many private developers participated in the downtown expansion. During the late 1980's, service industries, such as the health care and telecommunications industries, boomed.

Jacksonville's population continued to grow rapidly, reaching 735,617 by 2000. By then, Jacksonville had become the nation's 14th largest city in population.

In 2000, a business and housing boom took place in southern Duval and northern St. Johns counties. To cope with this growth, a coalition of government agencies began major projects to clean the St. Johns River, upgrade roads, improve the sewerage system, and preserve open space. Michael P. Clark

Jacob, in the book of Genesis, was the son of Isaac and the father of 12 sons and at least 1 daughter by his wives Leah, Rachel, Zilpah, and Bilhah. According to the Bible, Jacob's sons were the founders of the 12 tribes of Israel. Some scholars believe these idealized family relationships really reflect complex patterns of tribal settlement and migration. Whatever the actual historical background, Jacob's character, with its conflicting dimensions, has come to stand for and embody the characteristics of the entire people called Israel.

Jacob bought his older twin brother Esau's birthright with a bowl of stew (Genesis 25:29-34). Later, at the urging of his mother, Rebecca, Jacob enforced his claim by pretending to his blind and aged father that he himself was Esau. Thus, he obtained from Isaac the words of blessing Isaac had meant for Esau (Genesis 27). Esau was so angry that Jacob fled for his life.

On the way to his uncle Laban, Jacob slept at a place called Bethel, where he dreamed of a wonderful ladder between heaven and earth. In the dream, God promised to protect and bless Jacob and one day bring him home (Genesis 28:11-17). Much encouraged, Jacob went on to Laban's home. There he fell in love with Laban's daughter Rachel. But Laban forced Jacob to marry his older daughter, Leah, before he could have Rachel for his wife. After working 20 years for Laban, Jacob left for home in Palestine with all his wives and their children.

On his way home, Jacob wrestled with a man who he discovered was God or, according to some scholars, an angel (Genesis 32:22-32). At the end of the encounter, Jacob received God's blessing and a new and more religious name—Israel. The name has been said to mean "he who strives with God" or "God strives." The name has also been interpreted as meaning "May God rule." Jacob spent his last years in Egypt, where his son Joseph brought him to live. Carole R. Fontaine

See also **Esau; Isaac; Jews** (Beginnings); **Joseph; Rachel.**

Jacob, *JAY kuhb,* **John Edward** (1934-), a civil rights leader, served as president of the National Urban League from 1982 to 1994. He replaced Vernon Jordan,

who had held the position since 1972. Jacob spent much of his career with the Urban League. He started working for the organization in 1965 as director of education and youth incentives at the Washington, D.C., chapter. Jacob later served as acting executive director and president of that chapter and as executive director of the San Diego Urban League. In 1979, he became executive vice president of the national office of the Urban League under Jordan.


National Urban League
John Edward Jacob

Jacob was born in Trout, Louisiana, and grew up in Houston. He received a bachelor's degree and a master's degree from Howard University. Before joining the Urban League, Jacob was a social worker for the Department of Public Welfare in Baltimore. Lisle Carleton Carter, Jr.

See also **Urban League**.

Jacobins, *JAK uh bihnz,* were members of the Jacobin Club, the most radical political society to rule during the French Revolution (1789-1799). The society got its name from its Paris headquarters, which was near the church of St. James (*Jacques* in French). The Jacobins favored changing France from a monarchy to a democratic republic. Most Jacobins were middle-class professionals such as doctors, lawyers, and teachers.

The Jacobins opposed war with other countries at first, fearing that it would lead to a military dictatorship. But when war broke out with Prussia and Austria in 1792, the Jacobins supported it to gain control.

The Jacobins came to power in 1793 and began the Reign of Terror, sending hundreds of French people to the guillotine (see **Guillotine**). Robespierre was the most influential Jacobin leader. But his fellow Jacobins, fearing his political beliefs, turned on him in 1794 and executed him. After his death, the Jacobins lost power.

Eric A. Arnold, Jr.

See also **French Revolution; Girondists; Mirabeau, Comte de; Robespierre; Sieyès, Emmanuel J.**

Jacobs, Joseph (1854-1916), was a British scholar best known for his collections of folk tales for children. Jacobs collected tales from England, Scotland, and Wales and modified them for younger audiences. *English Fairy Tales* (1890) and *More English Fairy Tales* (1893) rank among his most popular works. They include such stories as "Jack and the Beanstalk" and "The Three Little Pigs." Jacobs's other collections of tales include *The Fables of Aesop* (1889), *Celtic Fairy Tales* (1891), and *More Celtic Fairy Tales* (1894).

Jacobs was born in Sydney, Australia, and moved to England in the early 1870's. In 1900, he settled permanently in the United States. Jacobs was active in Jewish affairs throughout his career and wrote many works on Jewish history. Marilyn Fain Apseloff

See also **Literature for children** (Books to read [Folk literature/fairy tales, folk tales, and myths]).

Jacquard, *juh KAHRD* or *zha KAR,* **Joseph Marie** (1752-1834), perfected the automatic pattern loom. Jacquard looms could weave cloth with intricate patterns as easily as older looms made plain cloth. Jacquard was born in Lyon, France, the son of a weaver. In 1800, he saw an English journal that offered a prize for a simple pattern loom. He resolved to invent one for France. His first try won a medal at an industrial exhibition in 1801, and he was taken to the Paris Conservatoire des Arts et Métiers to improve it. By 1804, he had perfected a loom action that has remained essentially the same.

O. Frank Hunter

Jade is a hard, tough, and highly colored stone widely used for fine carvings and jewelry. In ancient China, it took the place of gold and other precious stones. The Chinese carved it into jewelry, and also buried it with their dead. Many beautiful jade carvings, dating from 1400 B.C., have been dug from the ruins of Anyang, the capital of the first Chinese dynasty. Through the years, the Chinese developed new sources of the mineral and improved their carving technique. Jade carving reached its height during the Ming Period (1368-1644). The carvings of this period are treasured by collectors.

Two minerals, jadeite and nephrite, have been classified as jade. Their chief colors are white and green.

Nephrite, the chief source of jade, was the mineral which the early Chinese used for carving. At that time, it came from Turkestan. Today, it comes chiefly from New Zealand. Nephrite deposits also have been found in Wyoming and Alaska. The principal jade-cutting centers are at Beijing, Shanghai, and Guangzhou. The mineral is translucent to opaque, and comes in a wide range of colors, including dark green, white, yellow, gray, red, and black. The most valuable type of nephrite is a dark green jade called *spinach jade.*

Jadeite, or *Chinese jade,* is a rare jade mineral, found mainly in Myanmar, Japan, California, and in carved objects in Mexico. It is more valuable than nephrite because of its beautiful colors, such as light-green or lilac. Once in a while, small amounts of a transparent emerald-green colored jadeite are found in boulders. The best quality of this jade is very valuable.

Jade minerals have a peculiar structure of interlocking meshes of fine needles that make them very strong and suitable for carving into delicate patterns and thin implements. Nephrite tools were found in the Lake Dweller remains of the New Stone Age in Europe and Central America. Frederick H. Pough

See also **China** (The arts [picture: Chinese ceremonial art]).

Jaeger, *YAY guhr* or *JAY guhr,* also called *hunting gull,* is the name of three species of sea birds that live in northern regions worldwide. Jaegers have brown or blackish feathers and hooked beaks. They feed on small mammals and small birds; eggs; and fish, which they often steal from other sea birds. Jaegers are small relatives of *skuas* (see **Skua**). Fritz L. Knopf

Scientific classification. Jaegers make up the genus *Stercorarius* in the family Laridae.

See also **Bird** (picture: Birds of the Arctic).

Jaffa, *JAF uh,* Israel, is one of the world's oldest cities. Ancient Egyptian records confirm its existence. It has been an important seaport since Biblical times, when it was called *Joppa.* Most of the Arab population fled during the Arab-Israel war of 1948. The city merged with Tel Aviv in 1950 (see **Tel Aviv**). Bernard Reich

Jagger, Mick. See Rolling Stones.

Jaguar, *JAG wahr,* is the largest, most powerful wildcat of the Western Hemisphere. Jaguars occur in Mexico, Central and South America, and southern Arizona and New Mexico. However, until the early 1900's, they also roamed in southern California, Louisiana, and Texas.

Jaguars live in forests, shrubby areas, and grasslands—wherever they can safely hide. They eat almost any kind of animal, including deer, fish, wild pigs, tapirs, turtles, and capybaras and other rodents. Jaguars hunt mainly on the ground and at night.

Jaguars measure from 5 to 8 $\frac{1}{2}$ feet (1.6 to 2.6 meters) long, including their 1 $\frac{1}{2}$ to 2 $\frac{1}{2}$ foot (45- to 75-centimeter) tail. They weigh from 150 to 300 pounds (68 to 136 kilograms). A jaguar has golden or brownish-yellow fur and many spots. The spots along its back and sides are light-colored with dark borders and have a dark spot in the center. The spots on its head, legs, and underside are black. Black jaguars live in South America. The jaguar symbolized strength and courage to the ancient Maya Indians, who considered the animal a god.

Male and female jaguars live together only during the mating season. After a pregnancy period of 95 to 110 days, the female gives birth to two, three, or four young. Newborn jaguars weigh between 1 $\frac{1}{2}$ and 2 pounds (0.7 and 0.9 kilogram). The young hunt with their mother during their first two years. They reach sexual maturity at the age of 3 and full adult size at 4.

The jaguar is a threatened species. It faces serious danger from hunters and environmental changes. The United States prohibits the import and export of jaguars or their pelts.. C. Richard Taylor

Scientific classification. The jaguar is a member of the cat family, Felidae. Its scientific name is *Panthera onca.*

See also **Animal** (picture: Animals of the tropical forests).

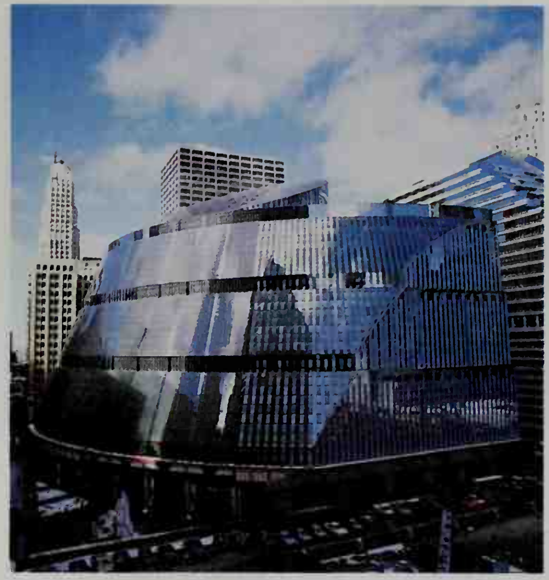
Jaguarundi, *JAH gwuh RUHN dee,* is a wildcat of the Western Hemisphere. It has a long neck, a weasel-shaped head, short ears, stubby legs, and a long tail. The cat stands about 1 foot (30 centimeters) high at the shoulder and is from 3 to 4 feet (91 to 122 centimeters) long. It weighs from 11 to 22 pounds (5 to 10 kilograms). Some jaguarundis are dark grayish-brown or black. Others are reddish-yellow. Jaguarundis are active at dawn, at dusk, and during the day. They eat rodents, birds, and farm animals. They live from southern Arizona and Texas to South America. Bruce A. Brewer

Scientific classification. The jaguarundi belongs to the cat family, Felidae. Its scientific name is *Felis yagouaroundi.*

Jahan, Shah. See Shah Jahan.

Jahn, *yahn,* **Helmut** (1940-), is an American architect. Jahn's early works reflect the International Style of modern architecture. This style emphasizes steel, glass, and concrete, avoids ornamentation, and stresses straight lines and overlapping planes. Jahn adapted these principles in his Kemper Arena (1974) and Bartle Convention Center (1976), both in Kansas City, Missouri.

About 1980, Jahn made a transition to a style known as Postmodern architecture. Postmodern buildings often combine modern and historical styles. The multicolored *facade* (exterior) of Jahn's One South Wacker Drive office building (1982) in Chicago includes black window panels designed in the form of gigantic pillars that refer to ancient Greek columns. Jahn continued in this style in



WORLD BOOK photo by Ralph Brunke

Helmut Jahn's James R. Thompson Center in downtown Chicago was completed in 1985. The glass and steel office building encloses a large rotunda that is 160 feet (49 meters) in diameter.

the James R. Thompson Center, originally called the State of Illinois Center (1985), in Chicago, a glass and steel office building formed around a great rotunda. Similar in style is Jahn's Sony Center (2000), a complex in Berlin, Germany. See also **Postmodernism.**

Jahn was born in Nuremberg, Germany. He moved to the United States in 1966. Dennis Domer

Jai alai, *HY ly,* is a fast and dangerous game that resembles handball. The sport is also called *pelota.* Players use a narrow wicker basket to throw a hard ball against the front wall of a court. The basket, called a *cesta,* measures about 2 feet (60 centimeters) long. One end has a glove that fits the player's hand. The other end is used for catching and throwing the ball. The ball, called a *pelota,* is slightly smaller than a baseball.

Jai alai is played on a walled court called a *cancha.* In the United States, a jai alai court has three walls and measures 176 feet (54 meters) long, 55 feet (17 meters) wide, and 40 feet (12 meters) high. Spectators sit along the open side of the court, watching the game through a clear, protective screen. A side may consist of one, two, or three players. Spectators often bet on the games.

To begin a singles game, the server hurls the ball from his cesta against the front wall. The opponent must catch the ball either before it hits the floor or on the first bounce. The opponent then hurls the ball against the wall, and the server must catch it and throw it back. The ball often travels 150 miles (241 kilometers) an hour and can injure or even kill a player. If the opponent misses the ball, the server scores a point. If the server misses, the opponent wins the serve. Points can be scored only by the player who is serving. Seven-point and nine-point games are popular for betting. In international doubles games, called *partido* games, a team must score 30 or 40 points to win.

Jai alai originated from a game played in the Basque



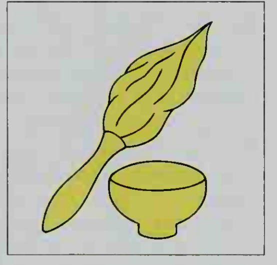
© Jean Guyot, Allsport/Getty Images

Jai alai is one of the world's fastest games. It requires speed, strength, and physical energy. This ancient Basque sport is played with a basket called a *cesta* and a ball called a *pelota.*

region of Spain and France during the 1600's. The Basque words *jai alai* mean *merry festival.* Today, jai alai is a favorite sport not only in Spain and France, but also in Mexico and the Philippines. In the United States, jai alai first became popular in Florida and is now played in several states. Critically reviewed by the United States Amateur Jai Alai Players Association

Jail. See **Prison.**

Jainism, *JY nihz uhm,* is a religion of India. It is based on the belief that every living thing consists of an eternal soul called the *jiva* and a temporary physical body. The eternal jiva is imprisoned in the body as a result of involvement in worldly activities. To free the jiva, one must avoid such activities as much as possible. Each jiva is reincarnated in many bodies before it is finally freed. After being freed, it exists eternally in a state of perfect knowledge and bliss.



A broom and a bowl are important symbols of Jainism, and Jain holy men and women always carry them. The broom represents the Jain belief that all life is sacred. Holy men and women use it to sweep aside insects so they will not step on them. They carry bowls to collect food for themselves.

Jain *sadhus* (holy men) and *sadhvis* (holy women) represent the ideal of Jainism. These men and women try to separate themselves from the everyday world. They are not allowed to kill any living creature. They may not own any property except a broom, simple robes, bowls for food, and walking sticks. They may not live in buildings except for brief periods, and they must beg for all their food. The highest goal for a sadhu or sadhvi is to set their own soul free. It may motivate them to cease all bodily activity and die of starvation, but this rarely happens.

Other followers of Jainism are the *laity* (people who are not sadhus or sadhvis). The laity support the sadhus and sadhvis and obey less strict rules of conduct. Most of the laity engage in business activities because such occupations do not directly involve killing any living thing. They look forward to becoming sadhus or sadhvis themselves in a future life.

A teacher called *Mahavira,* which means *The Great Hero,* founded Jainism in the 500's B.C. The Jains believe that Mahavira was the 24th in a line of teachers of Jain principles. The Jains honor these teachers and other holy persons, but they do not consider them to be gods. The Jains also do not believe in a supreme God.

Gene R. Thursby

See also **India** (Religion); **Karma; Religion** (picture: Honoring the saint Gommateswara).

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Jakarta, *juh KAHR tuh* (pop. 6,761,886), is the capital, largest city, and chief economic center of Indonesia. Jakarta, sometimes spelled *Djarkata,* lies on the Ciliwung River, on the northwest coast of the island of Java. For location, see **Indonesia** (map).

The city. Many modern hotels and office and government buildings surround Medan Merdeka (Freedom Square) near the center of Jakarta. A national monument rises about 360 feet (110 meters) above the square. The monument honors Indonesia's struggle for independence from the Netherlands, which ruled the country during most of the period from the 1600's to 1949. Jakarta's main business district and some industries are in the northern part of the city. Major industries also operate on the southern and eastern edges of Jakarta.

Wealthy Jakartans once lived in a Dutch-built residential section called Menteng. Today, these people make their homes in Pondok Indah and other fashionable residential areas in the south of Jakarta. However, many people in Jakarta live in small wood or bamboo structures in districts called *kampongs.* These areas lack clean water, sewers, and electric power.

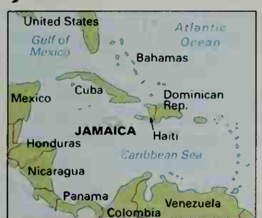
Jakarta has several cultural and recreational attractions. Its best-known museum, the Museum Pusat, houses Indonesian archaeological treasures. The Taman Ismail Marzuki Center features art exhibits, theatrical and musical performances, puppet plays, and a planetarium. Many sports events are held in the city's huge 200,000-seat stadium. Jakarta has many universities, of which the most famous is the University of Indonesia.

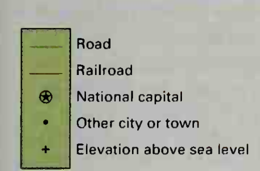
Economy of Indonesia is centered in Jakarta. The city's harbor, Tanjung Priok, handles much of the nation's foreign trade. Factories in Jakarta assemble motor vehicles; process food; and manufacture chemicals, electronic equipment, paper and printed materials, textiles, and other products. The government employs many people, although private businesses are growing.

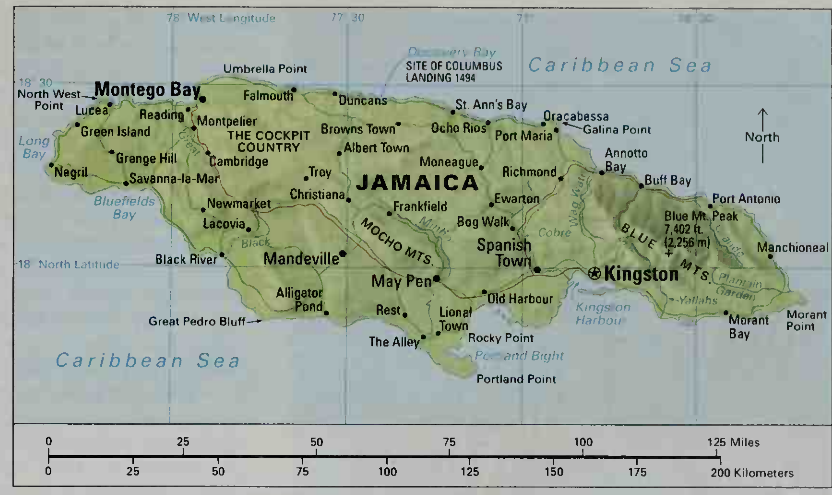
Automobiles, buses, taxis, trucks, and motorcycles crowd the streets of Jakarta. An electric railroad serves the city. The Sukarno-Hatta International Airport at Cengkareng lies to the west of the city.

History. The area of what is now Jakarta was settled as early as the A.D. 400's, probably by Sundanese people from other parts of Java. In the early 1500's, the Portuguese established a trading post in the area but were soon driven out by local Muslims. In 1527, the name of

Jamaica







WORLD BOOK maps

the town was changed from Sunda Kulapa to Jayakarta.

Dutch and English trading companies built outposts in Jayakarta during the early 1600's. Jayakarta was destroyed in 1619, when the Dutch defeated the English in a battle for control of the area. The Dutch named the city Batavia. During the 1800's, Batavia expanded southward and became a major port.

The Japanese occupied Batavia from 1942 until their defeat in World War II in 1945. The Dutch regained control of the city in 1946. Indonesia won its independence from the Netherlands in 1949, and Batavia was renamed Jakarta.

Jakarta's population grew rapidly in the middle and late 1900's. The great increase in population resulted in overcrowding and a shortage of jobs. City officials took several steps to fight these problems. In 1970, for example, the city's governor banned new immigrants from settling in Jakarta unless they already had jobs in the city. But the ban had little effect. Harold Crouch

See also **Indonesia** (pictures).

Jam. See **Jelly and jam.**

Jamaica, *juh MAY kuh,* is an island nation in the West Indies. Jamaica lies about 480 miles (772 kilometers) south of Florida and is the third largest island in the Caribbean Sea. Only Cuba and Hispaniola are larger. Arawak Indians, who were the first people to live in Jamaica, named the island *Xaymaca,* which means *land of wood and water.* Kingston is the capital, largest city, and chief port.

Jamaica's pleasant climate and its beautiful beaches and mountains attract large numbers of tourists each year. But the Jamaican economy does not depend chiefly on tourism. Jamaica is among the world's leading producers of bauxite, the ore from which aluminum is made. The island also produces bananas, sugar, and various manufactured goods.

Jamaica was a British colony for about 300 years, until 1962. Today, it is an independent nation within the Commonwealth of Nations.

Government of Jamaica is a constitutional monarchy. The prime minister, who leads the majority party in Parliament, is the chief executive. Cabinet members head the *ministries* (executive departments) of the government. The British monarch appoints the governor general of Jamaica. The governor general represents the monarch but has few governing powers.

The Jamaican Parliament consists of a Senate and a House of Representatives. The governor general appoints the 21 senators, 13 of them on the advice of the prime minister and 8 of them on the advice of the leader of the *opposition* (minority party) in Parliament. The voters elect 60 people to five-year terms in the House of Representatives. All Jamaicans at least 18 years old may vote. The largest political parties are the Jamaica Labor Party (JLP) and the People's National Party (PNP).

Jamaica is divided into 12 units of local government called *parishes,* plus the Kingston and St. Andrew Corporation, a governmental unit made up of Kingston and its surrounding area. Each parish has a governing council whose members are elected by the people.

People. More than 90 percent of Jamaica's people have black African or mixed black African and European (Afro-European) ancestry. The country's minority groups

Facts in brief

Capital: Kingston.
Official language: English.
Area: 4,243 mi² (10,990 km²). *Greatest distances*—east-west, 146 mi (235 km); north-south, 51 mi (82 km).
Elevation: *Highest*—Blue Mountain Peak, 7,402 ft (2,256 m) above sea level. *Lowest*—sea level, along the coast.
Population: *Estimated 2002 population*—2,628,000; density, 619 persons per mi² (239 per km²); *distribution,* 50 percent urban, 50 percent rural. *1991 census*—2,314,479.
Chief products: *Agriculture*—bananas, cacao, citrus fruits, coconuts, coffee, sugar cane. *Manufacturing and processing*—alumina, cement, chemicals, clothing, machinery, petroleum products, rum, sugar. *Mining*—bauxite, gypsum.
Flag: A gold diagonal cross with black triangular side panels, and green triangular panels at top and bottom. The gold stands for sunlight and mineral wealth, the black for hardships of the past and future, and the green for hope and agricultural wealth. Adopted 1962. See **Flag** (picture: Flags of the Americas).
Money: *Basic unit*—Jamaican dollar. One hundred cents equals one dollar.



© Marilyn Martin, Index Stock

An outdoor market in Jamaica sells bananas and other items. Bananas rank among Jamaica's chief farm products. Other important crops include sugar cane, coffee, citrus fruits, and coconuts.

include Asians, most of whom are Chinese and Indians; Europeans; and Syrians. Most Jamaican business and professional people are Europeans and Afro-Europeans. Numerous Chinese and Syrians also operate businesses. Large numbers of people of African and South Asian ancestry work as farm laborers.

Jamaica's official language is English. But most Jamaicans speak a *dialect* (local form) of English that differs from the English that is spoken by Americans and English people. More than 80 percent of the people are Christians. Religious groups include Anglicans, Baptists, members of the Church of God, and Roman Catholics.

About 100,000 black Jamaicans belong to a religious and political movement called Rastafarianism. The name *Rastafarian* comes from *Ras Tafari,* a title held by Haile Selassie I, the emperor of Ethiopia from 1916 to 1974. Many early Rastafarians considered Haile Selassie to be a god. In addition, they adopted many of the beliefs of Marcus Garvey, a Jamaican who died in 1940. During the 1920's in the United States, Garvey preached that all blacks should consider Africa their home and live there (see Garvey, Marcus). After Haile Selassie's death in 1975, Rastafarians changed some of their beliefs about Africa. Today, some look forward to a spiritual return to Africa rather than to actually living there.

The government provides free elementary schools for children from 6 to 15 years old. Almost all Jamaican children go to primary school. However, only about two-thirds attend high school. The largest university in Jamaica is the University of the West Indies at Mona, located on the outskirts of Kingston. Most Jamaicans 15 years of age or older are able to read and write.

Land and climate. Jamaica is part of the Greater Antilles, a group of islands in the West Indies. The island has three land regions: coastal plains, central hills and plateau, and eastern mountains. The Blue Mountains rise to 7,402 feet (2,256 meters) at Blue Mountain Peak. Limestone formations located in northwestern Jamaica include a large number of deep depressions called *cockpits,* and the area is called the Cockpit Country. Jamaica has many springs, streams, and waterfalls. Swift-flowing rivers run north and south from the mountains.

Jamaica has a hot, humid climate that is eased by ocean winds. The average temperature in the winter is 75 °F (24 °C) and in the summer 80 °F (27 °C). Temperatures in the mountains can drop to 40 °F (4 °C). The rainy seasons extend from May through June and September through November. The rainiest months are May and October. The yearly rainfall varies from about 30 inches (76 centimeters) along the coast to about 200 inches (510 centimeters) in the mountains.

Economy. About a fourth of Jamaica's people work in agriculture. Sugar cane is the most important crop. Other farm products include allspice, bananas, cacao, citrus fruits, coconuts, coffee, milk, poultry, and yams. But the nation's farms do not produce enough food for all the people, and so Jamaica must import much of its food.

Mining provides much of Jamaica's income. Jamaica is one of the world's largest producers of bauxite. Plants near some of the bauxite mines remove a mineral compound called *alumina* from the bauxite ore. This process is the first step in the production of aluminum. Jamaicans also mine gypsum, which is used in making plasterboard and other construction materials. Minerals are Jamaica's chief exports.

Jamaica has plants that produce cement, chemicals, cigars, clothing, fertilizer, footwear, machinery, molasses, petroleum products, and rum. Tourism provides much income for the nation. The leading tourist centers in Jamaica include Kingston, Montego Bay, Negril, and Ocho Rios. Data entry and software programming are growing parts of the economy.

Jamaica's chief trading partners are the United Kingdom, the United States, and Venezuela. Jamaica belongs to the Caribbean Community and Common Market (CARICOM), an economic organization of Caribbean nations. It is also a member of other international trade and development organizations.

Jamaica has a good road network. But the country has an average of only about 1 automobile for every 15 people. Most Jamaicans ride buses. Kingston and Montego Bay have international airports. Three daily newspapers are published in Jamaica.

History. Arawak Indians lived in Jamaica when the explorer Christopher Columbus arrived there in 1494 and claimed the island for Spain. The Spaniards enslaved the Arawak and later brought Africans to the island as slaves. Disease and overwork killed almost all the Arawak. The Spaniards used Jamaica as a supply base. Because Jamaica had no gold, they did not try to settle or develop the island.

The British invaded Jamaica in 1655, and they gained formal possession in 1670. But they continued to fight African slaves called Maroons, who had escaped into the hills when the British arrived. The British and the Maroons signed a peace treaty in 1738. During the 1670's, British pirates in the Caribbean used Jamaica as a base to attack Spanish ports and ships.

Jamaica prospered in the 1700's. Sugar became the major crop, and the island ranked as the most important slave market in the Western Hemisphere. But in 1833, the British Parliament freed the slaves. The end of slavery hurt the Jamaican sugar industry because the plantation owners lost thousands of laborers.

In 1865, disputes between planters and workers led to a peasant revolt called the Morant Bay Rebellion. Paul Bogle, a Baptist deacon, led the workers. British troops put down this uprising. For the previous 200 years, Jamaicans had elected a governing body, the House of Assembly, to help the British rule. After the revolt, Jamaica became a *crown colony,* governed directly by the United Kingdom.

In the 1930's, Jamaican labor leaders urged the British Parliament to give the Jamaican people more political power. In 1944, the United Kingdom gave Jamaica a new constitution that provided for some self-government. Jamaica was a member of the West Indies Federation from 1958, when the federation was established, until it was dissolved in 1962. Later in 1962, Jamaica became a fully independent nation and a member of the Commonwealth of Nations. Jamaica joined the United Nations in 1962 and the Organization of American States in 1969.

In the 1970's, Jamaica faced severe economic problems. Michael Manley of the People's National Party became prime minister of Jamaica in 1972. He sought to solve the economic problems by adopting socialistic policies. He also called for a policy of nonalignment with other nations. Edward Seaga of the Jamaica Labor Party became prime minister in 1980. He adopted economic policies that emphasized the role of private business and encouraged foreign investment and good relations with Western nations. In 1983, Jamaica and several other Caribbean nations joined the United States in invading Grenada to overthrow its Marxist government. See **Grenada** (History and government) for details. In 1988, a major hurricane struck Jamaica. It killed 45 people and caused widespread property damage.

Manley became prime minister again in 1989. He followed a moderate course in economic and foreign relations policies. Manley resigned as prime minister in 1992. The People's National Party elected Percival J. Patterson party head, and he became prime minister. The PNP won the most seats in parliamentary elections held in 1993 and 1997, and Patterson remained prime minister. Brian Winston Meeks

Related articles in *World Book* include:

Aluminum (graph: Leading bauxite-mining countries)	Maroons
Arawak Indians	Morgan, Sir Henry
Commonwealth of Nations	Organization of American States
Garvey, Marcus	Rastafarians
Kingston	Reggae
Marley, Bob	West Indies

James was the name of five kings of Scotland and two kings of both Scotland and England. All belonged to the House of Stuart, spelled *Stewart* by the Scottish.

James I (1566-1625) became King James VI of Scotland in 1567 when his mother, Mary, Queen of Scots, was forced to give up that throne. When his cousin Elizabeth I died in 1603, he became James I of England, the first Stuart king of England. He ruled both England and Scotland until his death. His son Charles I succeeded him.

James was born on June 19, 1566. A scholar, he published works on theology, witchcraft, and the *divine right of kings,* the belief that kings get the right to rule from God, rather than from the people. He had great success ruling Scotland, but the English Parliament opposed his attempt to rule as absolute monarch in England. This struggle for power continued under Charles I, and contributed to the outbreak of the English Civil War in 1642.

James also faced opposition from the *Puritans,* a religious group that wanted "to purify" the Church of England. James sponsored a new translation of the Bible, published in 1611, that became known as the King James Version. But he refused to make other Puritan reforms.

Some Puritans migrated to America in 1620 and founded Plymouth Colony. Jamestown, the first permanent English settlement in America, was named in his honor. But James showed an interest in colonies only in Northern Ireland, where he seized land from Irish Catholics and gave it to English and Scottish Protestants.

James II (1633-1701) reigned from 1685 to 1688. In Scotland, he ruled as James VII. James gained the throne on the death of his brother, Charles II. James, a Roman Catholic, favored Catholics in his policies. This angered many English people. When James's wife had a son in June 1688, the prospect of another Catholic ruler united James's opponents. In the Glorious Revolution of 1688, James was forced to give up the throne. His Protestant daughter Mary and her husband, William of Orange, ruler of the Netherlands, became joint rulers in 1689. James fled to France and spent the rest of his life in exile.

James was born on Oct. 14, 1633. He was a younger son of Charles I. As Duke of York, James served as admiral and head of the English Navy. English forces named New York City after him.

Five kings named James ruled Scotland from 1424 to 1542. They were James I (1394-1437), who ruled from 1424 to 1437; James II (1430-1460), who ruled from 1437 to 1460; James III (1451-1488), who ruled from 1460 to 1488; James IV (1473-1513), who ruled from 1488 to 1513; and James V (1512-1542), who ruled from 1513 to 1542.

Michael B. Young

Related articles in *World Book* include:

Bible (The King James Version)	Mary II
Divine right of kings	Mary, Queen of Scots
Glorious Revolution	Monmouth, Duke of
Gunpowder Plot	Stuart, House of

James, Daniel, Jr. (1920-1978), was the first black four-star general in United States history. He achieved that in 1975 as a member of the U.S. Air Force.

"Chappie" James was born on Feb. 11, 1920, in Pensacola, Florida. He attended Tuskegee Institute (now Tuskegee University) near Tuskegee, Alabama, and took part in a special training program of the U.S. Army Air Corps (now the U.S. Air Force). Held at Tuskegee Army Air Field, this program trained the men who would become the U.S. military's first black pilots. These men became


AP/Wide World
Daniel James, Jr.

well known as the *Tuskegee Airmen.* Many of them fought in World War II (1939-1945).

In 1943, James received a commission as a second lieutenant. As a fighter pilot, he flew 101 combat missions during the Korean War (1950-1953) and 78 combat missions during the Vietnam War (1957-1975). James won promotion to brigadier general in 1970 and lieutenant general in 1973. He served as commander of the North American Air Defense Command (NORAD, now the North American Aerospace Defense Command) from 1975 until his retirement in 1978.

James spoke out strongly for civil rights. He praised excellence in performance as a way to attack institutionalized racism. J. Alfred Phelps

James, Epistle of, is a book of the New Testament. It is one of eight letters called "General Epistles" because they were addressed to Christians in general. According to tradition, the Epistle was written by James, Jesus's brother and an early leader of the church in Jerusalem (see **James, Saint**). This James should not be confused with James, the son of Alphaeus, and James, the son of Zebedee, who were among the 12 apostles. But not all scholars are convinced that James wrote the letter. Some believe the author may have lived in Antioch because the epistle is written in Greek and seems to contain Greek ideas. It warned Christians that profession of faith cannot take the place of good deeds. See also **Bible** (Books of the New Testament). J. H. Charlesworth

James, Henry (1843-1916), was one of America's greatest writers. In his short stories and novels, he created characters of great psychological complexity. His prose style changed over the course of his 50-year writing career. At first, James's style was straightforward and realistic, and he often sharply satirized manners and morals. Later, his style became complicated, and his basic realism became deepened by a rich, almost poetic symbolism. James also wrote literary criticism. His reviews, essays, and prefaces have established him as one of the most important theorists of fiction.

His life. James was born in New York City into a wealthy and intellectually prominent family. His father was a religious philosopher and a friend of leading thinkers of the 1800's. His older brother, William, became a great philosopher and psychologist. James's father gave his five children an unusual education, which included long visits in Europe.

James never married. In the tale "The Lesson of the Master" (1888), he suggested that to be an artist, a person should be free of the obligations of family life. James devoted himself to his art, writing every day, but he still enjoyed a wide circle of social and literary friendships. James left America in his early 30's. He felt that the older and more socially complicated societies of Europe would offer him richer material for his fiction. In Paris, he befriended the most advanced European writers, including Gustave Flaubert, Ivan Turgenev, and Émile Zola. In 1876, James settled in England. He became a British subject in 1915 to show his support for Britain during World War I.

His works. James's huge literary output includes 112 tales, 20 novels, 2 volumes of autobiography and part of a third, travel essays and books, nearly 3,000 pages of literary criticism, and 16 plays. James had only a few big successes with the reading public. His most popular works were the short novels *Daisy Miller* (1878) and *The Turn of the Screw* (1898). But critics almost always praised his work, except for his plays. James became a mentor to younger writers who considered themselves James's students and James himself "the Master."

James's career can be divided into six stages. The first, from 1864 to 1874, was an apprenticeship in which he concentrated on writing short stories and criticism. His second phase began with *Roderick Hudson* (1875), his first important novel. This novel followed the pattern of much of his later fiction. In those works, an innocent, sensitive, intelligent person (usually an American) sets out on a quest for experience. The person usually travels to Europe, discovering the contrast in manners and morals between the older world of Europe and the new world of America. Chief novels of this phase are *The American* (1877), *The Europeans* (1878), *Washington Square* (1880), and *The Portrait of a Lady* (1880-1881).

During James's third stage, from 1882 to 1889, he wrote many short stories and short novels. He also wrote three long novels about politics and art: *The Bostonians* (1886), *The Princess Casamassima* (1886), and *The Tragic Muse* (1890). James's fourth stage, from 1889 to 1895, is marked by his unsuccessful attempts to become a popular playwright.

During his fifth phase, James concentrated on fiction. He entered an experimental period that lasted until 1900, writing a group of novels in which he tried different methods of controlling point of view. For example, in *What Maisie Knew* (1897), an "adult" story about divorce is told from the point of view of a little girl.

James's sixth phase—often called his "major phase"—covers the rest of his life. He wrote his three greatest novels, *The Wings of the Dove* (1902), *The Ambassadors* (1903), and *The Golden Bowl* (1904), in this period. He also produced the travel book *The American Scene* (1907) and three volumes of autobiography: *A Small Boy and Others* (1913), *Notes of a Son and Brother* (1914), and *The Middle Years* (1917). His critical prefaces to a collected edition of his works were published after his death in *The Art of the Novel* (1934). Daniel Mark Fogel

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James, Jesse (1847-1882), became one of the most famous bank and train robbers in the history of the United States. James led about 25 robberies in Missouri and several other states. His gang also killed a number of people.

Some writers described James as a hero who robbed only the rich. However, James really was a vicious murderer and thief.

Jesse Woodson James was born in Clay County, Missouri, and was the son of a minister. During the


Missouri Historical Society
Jesse James

Civil War (1861-1865), he and his older brother, Frank, joined bands of killers and thieves led by Confederate sympathizers. After the war, Jesse and Frank James formed a new band with their cousins, the Youngers, and began to hold up trains, stagecoaches, and banks. In 1871, bank officials hired the Pinkerton National Detective Agency to capture Jesse. In 1875, a bomb thrown into his mother's house killed his stepbrother Archie Samuel and injured his mother. Some people believed detectives hurled the bomb, and that James was being unjustly persecuted.

In 1881, Governor Thomas Crittenden of Missouri offered a $5,000 reward for the arrest of Frank or Jesse. Gang member Robert Ford believed he could collect the reward if he killed either brother, and shot Jesse in the head. Jesse died the same day, April 3, 1882, in St. Joseph, Missouri. Odie B. Faulk

See also **Western frontier life in America** (picture).

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James, P. D. (1920-), is a popular English writer of detective stories. She created the character of Scotland Yard Commander Adam Dalgliesh. A poet as well as a policeman, Dalgliesh brings intelligence and sensitivity to the cases he investigates. He has appeared in several novels, beginning with James's first novel, *Cover Her Face* (1962). James's other Dalgliesh novels include *Death of an Expert Witness* (1977), *A Taste for Death* (1986), *Devices and Desires* (1990), *Original Sin* (1995), *A Certain Justice* (1997), and *Death in Holy Orders* (2001). James introduced Cordelia Gray, a young London private detective, in *An Unsuitable Job for a Woman* (1972). Gray also appears in *The Skull Beneath the Skin* (1982). James's books are noted for their psychological realism, well-constructed plots, strong characterization, and descriptive prose.

Phyllis Dorothy James was born on Aug. 20, 1920, in Oxford. She joined the British civil service in 1949, working first in hospital administration, and then in the criminal policy department. In 1991, she was created Baroness James of Holland Park. David Geherin

James, Saint, was one of the leaders of the Christian church in Jerusalem during the first years after it was founded. He is referred to as Jesus's brother (Galatians 1:19), but the term "brother" can also mean "cousin" or "kinsman." Some documents record the tradition that the Jews called him "the Just," probably because of his strict observance of the law. The New Testament seldom speaks of James by name. Historians record that he was martyred about A.D. 62. This James should not be confused with James, the son of Alphaeus, and James, the son of Zebedee, who were among the 12 apostles. According to tradition, James wrote the Epistle of James in the New Testament. But many scholars doubt James wrote it. See **James, Epistle of.** J. H. Charlesworth

James, William (1842-1910), became the most widely read American philosopher of the 1900's. With Charles S. Peirce and John Dewey, he led a philosophical movement called pragmatism (see **Pragmatism**).

Early career. James, the brother of the novelist Henry James, was born on Jan. 11, 1842, in New York City. As a medical student at Harvard University, he studied anatomy and physiology under the naturalist Louis Agassiz. James's interests turned to psychology and the relationship among experience, thinking, and conduct. His *The Principles of Psychology* (1890) is considered a classic.

Neither physiology nor psychology could satisfy James's interest in the human condition. He was basically a philosopher who believed in the supreme importance of ideas. His own experiences had forced him to raise philosophical questions. James struggled to find his life's work. Depression over his inability to reach a decision led him to the verge of despair. He finally became convinced that people could devote their lives to finding new answers to such ancient questions as: Can human effort change the course of events? Does God exist? What difference would His existence make to people? What is the good life? How does a person's conviction about what is good affect his or her actions?

His beliefs. James tried to answer philosophical questions in pragmatic terms. He believed that every difference in thinking must make a difference to someone, somewhere. If two theories differ, the difference becomes clear when we know (1) how they differ over what the facts are, and (2) the difference in our behavior if we believe that one or the other is true.

One person may claim that people are free and can make real choices. Another may claim that people are not free because all human decisions and actions are determined by factors beyond their control. These claims cannot both be true. Therefore, according to James, we must find a way to decide between them because our conduct depends on which we adopt. James proposed that we approach such questions by tracing the consequences of each viewpoint. If we are free, we can make decisions. We are responsible for our actions. We can regret some of our actions and can say that the world would be better if such actions had not been carried out. If we are not free, we do not choose our actions. We are not responsible for our actions, and it makes no sense to speak about something happening differently from the way it did happen.

James did not claim to have solved difficult philosophical problems for all time. He tried to put them into a form that would make it easier for people to solve the problems for themselves. All people, James believed, must make up their own minds on issues of human life and destiny that cannot be settled on scientific grounds. James wrote a famous essay called "The Will to Believe" (1896). It states that if we believe in the possibility of some future event taking place, this belief increases our power to help make the event happen when the time comes for action. James's other works include *Varieties of Religious Experience* (1902), *Pragmatism* (1907), and *The Meaning of Truth* (1909). John E. Smith

See also **Dewey, John; Peirce, Charles Sanders.**

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James Bay is the southern arm of Hudson Bay in northeast Canada. The bay was named for the English navigator, Thomas James. James explored the bay in

1631 and again in 1633 while trying to discover the Northwest Passage. James Bay lies in Ontario and Quebec. It is about 270 miles (430 kilometers) long and 120 miles (200 kilometers) wide. Many islands lie in the bay. Akimiski, the largest, is about 70 miles (113 kilometers) long. Several large rivers flow into the bay, among them the Attawapiskat, Albany, and Moose in Ontario; and the Harricana, Nottaway, and Eastmain in Quebec. See also **Hudson Bay**. George B. Priddle

James River is the largest waterway lying wholly within the state of Virginia. Jamestown, the first permanent English colony in America, was settled on the banks of this stream in 1607. The river rises in the Allegheny Mountains at the meeting point of the Jackson and Cowpasture rivers. From here the James flows southeastward for about 340 miles (547 kilometers). It empties into Chesapeake Bay through the Hampton Roads channel. The Appomattox, one of the chief branches of the James, enters the river 66 miles (106 kilometers) from the sea. From this point down to the sea, the James is a tidal stream and can accommodate large ocean steamers. Michael P. O'Neill

James the Greater, Saint, was one of the 12 apostles of Jesus Christ. James is often called James the Greater to distinguish him from another apostle, James the Less. James the Greater was the brother of the apostle John. With John, he was one of the first disciples called to follow Jesus. James and John were fishermen who lived along the northern shore of the Sea of Galilee. Jesus called the brothers the "sons of thunder" (Mark 3: 17), apparently because of their rashness. James plays a significant part in all four Gospels. He was the first of the apostles to be martyred. Of all the apostles, his martyrdom is the only one reported in the New Testament. Acts 12: 2 states that King Herod Agrippa I had him killed in the early A.D. 40's.

According to later tradition, the bones of James were taken to Santiago de Compostela in Spain. As a result, the town became an important pilgrimage center during the Middle Ages. James's feast day is celebrated on July 25. Richard A. Edwards

See also **Apostles**.

James the Less, Saint, was one of the 12 apostles of Jesus Christ. He is often called James the Less to distinguish him from another apostle, James the Greater. Tradition has associated James the Less with James the Younger, mentioned in Mark 15: 40, and also with James the "brother of the Lord," a prominent figure in the Acts of the Apostles. However, many Biblical scholars believe that they are three different people. James the Less is mentioned in all four lists of the apostles in the New Testament. He is not mentioned anywhere else in the Bible. His feast day is celebrated on May 3. See also **Apostles**. Richard A. Edwards

Jamestown, Va., was the first permanent English settlement in North America. On May 6, 1607, three ships stopped at Cape Henry, at the southern entrance to Chesapeake Bay, after more than four months at sea. The day was April 26, according to the calendar then in use. Captain Christopher Newport commanded the ships, the *Susan Constant, Godspeed,* and *Discovery.*

The ships carried 105 adventurers, who saw "faire meddowes and goodly tall trees" along the Virginia coast. They had been sent out by a group of London merchants and other interested people known as the Virginia Company of London (later shortened to Virginia Company. See **London Company**). They came to America mostly to search for treasure and also to spread Christianity among the Indians. Few of the men were able or willing to do manual labor or to raise farm products that could not be grown in England.

The three ships sailed up the James River from Cape Henry for about 60 miles (97 kilometers). The adventurers landed on a little peninsula on the river on May 24 (then May 14) and established their settlement there. For location, see **Virginia** (map: Historic Virginia). They named both the river and their settlement in honor of King James I of England. The site turned out to be a bad choice. The ground was swampy, and the drinking water impure. A meager and unwholesome diet weakened the men, and about two-thirds of them soon died of malnutrition, malaria, pneumonia, and dysentery. Sharp contrasts of climate added to their problems.

The Jamestown settlement suffered one dreadful disaster after another. Captain John Smith held the group together when he took control from mid-1608 to mid-1609. He forced the adventurers to stop searching for gold and silver and to start working for their survival, and he bought corn from the Indians. But an accident in 1609 forced Smith to return to England for treatment.

Fire, drought, Indian attacks, disease, starvation, and lack of another strong leader brought the settlement to its lowest ebb in the winter of 1609-1610. Later colonists called that winter "the starving time." The arrival of Governor Thomas West, Lord De La Warr, in 1610 with settlers and supplies saved Jamestown from abandonment.

About 18,000 Indians lived in Virginia during the early 1600's. More than 30 of the tribes in the area united to form a confederacy under the mighty chief Powhatan (Wahunsonacock). His daughter, the Indian princess Pocahontas, was reported to have saved the life of John Smith. In 1614, Pocahontas married John Rolfe, one of the settlers. This marriage was treated as a diplomatic alliance. It brought about a few years of uneasy peace between the settlers and the Indians.

Jamestown's agricultural and industrial activities began slowly. The early settlers failed in attempts to produce silk, grapes, and other items unsuited for the Virginia climate. Early industries included glass blowing, iron smelting, the making of potash, and shipbuilding.

The first farm products to be raised successfully were hogs and Indian corn. In 1612, John Rolfe introduced a new type of tobacco to the colony by bringing seed from Trinidad. Rolfe also improved the method of curing the leaves. This new kind of tobacco was sweeter than the native Virginia plant, and the settlers found a ready market for it in Europe. Tobacco, corn, and hogs provided a solid basis for Jamestown's economy.

In 1619, the first representative legislative assembly in the Western Hemisphere met in Jamestown. This assembly, called the *House of Burgesses,* served as a model for many of the lawmaking bodies in the United States (see **House of Burgesses**). In 1619, when the population was about a thousand, the Virginia Company tried to encourage young men to make permanent homes in the colony by sending a number of "young, handsome and honestly educated maids" to become the bachelors' wives. Before 1619, only a few married women and fe-

male servants lived in Jamestown. Another important event of 1619 was the arrival of a Dutch ship at Jamestown with 20 blacks for sale. These Africans, and the thousands who followed them, would in time become slaves. Their labor helped make the colony prosperous.

In 1622, the Indians, afraid of losing their lands forever, unexpectedly attacked the settlements around Jamestown, and killed about 350 people—one-third of the colonists. The town itself was warned of the uprising and was able to resist the attack. The Indians rose again in 1644 and killed about 500 people, mostly in outlying settlements. Both times, the colonists struck back, killing many Indians and destroying their food supplies and villages. See **Indian wars** (Colonial days).

Two of the main reasons for the survival of the Jamestown settlement were that (1) the colonists learned to produce their own food, and (2) tobacco proved to be a highly marketable cash crop. But tragedy struck Jamestown in the late 1600's. The town was burned to the ground in 1676 during Bacon's Rebellion, a revolt against royal governor William Berkeley led by planter Nathaniel Bacon (see **Bacon's Rebellion**). Fire again destroyed the settlement in 1698. These disasters caused the people in Virginia to transfer their capital to Williamsburg in 1699. Jamestown fell into decay.

The site of the Jamestown settlement no longer stands on a peninsula. It now lies on an island, having been cut off from the mainland by water. Much of the original land has been washed away by tidal currents of the James River. For many years, only a few foundation stones and the ruined tower of a brick church stood as reminders of the settlement. But archaeologists have now found many relics of the original town. The Association for the Preservation of Virginia Antiquities controls the land around the ruined church. The National Park Service manages the rest of the area. It operates its area as part of the Colonial National Historical Park.

In 1957, Virginia celebrated the 350th anniversary of the founding of Jamestown. The state built Jamestown Festival Park (now Jamestown Settlement) about $\frac{1}{2}$ mile (0.8 kilometer) from the original site of Jamestown. The park has a reproduction of the area's first fort, Powhatan's lodge, and replicas of the ships that brought the first adventurers. Thousands of tourists visit these sites each year. James Kirby Martin

Related articles in *World Book* include:

Bacon's Rebellion	London Company	Smith, John
Glass (Early American glass)	Pocahontas	Virginia (History)
	Rolfe, John	Williamsburg

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Janáček, *YAH nah CHEHK,* **Leoš**, *LEH awsh* (1854-1928), was a Czech composer best known for his operas and works for male chorus. Many of Janáček's compositions reflect his interest in the folk music of Moravia, his native region. Much of his music features the powerful repetition of folk *motifs* (themes). Janáček's operas show his fascination with the moods and rhythms of speech.

Janáček's most popular opera is probably *Jenůfa* (1904), a tragedy based on peasant life. *The Cunning Little Vixen* (1924) is a charming fable. His other notable operas include *The Makropulos Affair* (1926) and *From the House of the Dead* (1930).

Janáček's choral compositions include *The 70,000* (1909) for male choir. He also wrote works for solo piano and songs for solo voice as well as chamber music. He composed *Sinfonietta* (1926) for orchestra. Janáček's church music includes the dramatic and joyous *Glagolitic Mass* (1926). Janáček was born in Hukvaldy, a village near Ostrava. Vincent McDermott

Janissaries, *JAN uh SEHR eez,* were a group of highly trained professional soldiers of the Ottoman Empire. The word *Janissary* comes from a Turkish term meaning *new troops.* Sultan Murad I, the third Ottoman ruler, probably organized the Janissaries in the 1300's. The group at first consisted of slaves and prisoners of war, and later of children trained as soldiers. Janissaries were considered slaves of the sultan. They were known for their discipline and their early use of handheld firearms. Janissaries made up the select core of the Ottoman army from the 1300's to the 1500's. But by the 1600's, they had become a threat to the sultan's authority. In 1826, Sultan Mahmud II outlawed the Janissaries as a first step in reforming the empire. Justin McCarthy

Jansen, Cornelius (1585-1638), was a Roman Catholic bishop best known for his book *Augustinus,* published in 1640, after his death. The book formed the basis of a religious movement called *Jansenism.* The church condemned as heresies Jansenism's views on grace, free will, and predestination. The movement created controversy among Catholics in France and the Netherlands.

Jansen based *Augustinus* on his study of the writings of Saint Augustine, a leading early Christian theologian. In *Augustinus,* Jansen wrote that human nature is totally corrupt and that people need God's grace to act according to His will. Jansen also taught that God gives grace only to those he has *predestined* (chosen beforehand) for salvation and that Jesus Christ died only for the people predestined for heaven. Jansenism began to lose its influence in the 1730's.

Cornelius Otto Jansen was born in Acquoy, near Gorinchem, the Netherlands. He became bishop of Ypres, Belgium, in 1636. Jill Raitt

See also **Pascal, Blaise; Roman Catholic Church** (Jansenism).

Jansky, *JAN skee,* **Karl Guthe** (1905-1950), an American engineer, was the first person to detect radio waves whose source was outside the solar system. His discovery led to the development of *radio astronomy,* a branch of astronomy that studies radio waves given off by objects in space. See **Telescope** (Radio telescopes).

Jansky made his discovery in 1931. While investigating static interference in transatlantic radio messages, he heard static he could not identify. After extensive study, Jansky determined that the static came from outside the solar system, in the constellation Sagittarius. He reported his findings in 1932. Jansky's discovery marked a great advance in astronomy. Today, scientists use radio waves to observe objects in space that cannot be seen with optical telescopes.

Jansky was born in Norman, Oklahoma. He graduated from the University of Wisconsin. Roger H. Stuewer

January is the first month of the year according to the Gregorian calendar, which is used in almost all the world today. The month is named for Janus, the Roman god of beginnings. According to Roman legend, the ruler Numa Pompilius added January and February to the end of the 10-month Roman calendar in about 700 B.C. He gave the month 30 days. Later, the Romans made January the first month of the year. In 46 B.C., the Roman statesman Julius Caesar added a day to January, making it 31 days long. The Anglo-Saxons called the first month Wolfmonth because wolves came into the villages in winter in search of food.

January 1 is celebrated as New Year's Day in most countries. The third Monday of January is a federal holiday in the United States in honor of slain civil rights leader Martin Luther King, Jr., whose birthday falls on January 15.

Most Christian churches celebrate Epiphany on January 6, the 12th day after Christmas. The holiday commemorates the arrival of the wise men from the East bearing gifts for the infant Jesus. In Latin America, this day is celebrated as Día de los Reyes Magos (Three Kings' Day). Children receive gifts on this day, supposedly from the wise men. In Sweden, St. Canute's Day (also spelled *Cnut* or *Knut),* is celebrated on January 13. This holiday marks the end of the Christmas season. In Norway, a similar holiday is called Tyvendedagen (Twentieth Day), because it falls on the 20th day after Christmas.

Many Hindus celebrate a harvest festival called Makara Sankranti or Pongal in mid-January. During this holiday, many people bathe in the Ganges River, India's most sacred river. They give *alms* (charity), eat newly harvested rice, and eat sweets to symbolize the wish for sweet words throughout the year.

Important January events

1 The Commonwealth of Australia was formed in 1901.
— Haiti became independent in 1804.
— Sudan became independent in 1956.
— Western Samoa (now Samoa) became independent in 1962.
— Junkanoo celebration and parade, Bahamas.
— New Year's Day in many countries.
— Lorenzo de' Medici, patron of the arts and ruler of Florence, Italy, born 1449.
— Paul Revere, American Revolutionary patriot, born 1735.
— Betsy Ross, designer of the American flag, born 1752.
—United States President Abraham Lincoln issued the Emancipation Proclamation, 1863.
2 James Wolfe, conqueror of Quebec, born 1727.
— State of Georgia ratified the U.S. Constitution, 1788.
3 Cicero, Roman statesman, born 106 B.C.
— Lucretia Mott, American women's rights leader, born 1793.
— Father Joseph Damien, Belgian missionary, born 1840.
— Alaska became the 49th U. S. state, 1959.
4 Burma (now Myanmar) became independent in 1948.
— Jakob Grimm, German fairy-tale collector, born 1785.
— Louis Braille, French inventor of the alphabet used by the blind, born 1809.
—Utah became the 45th U.S. state, 1896.
5 Stephen Decatur, American naval hero, born 1779.
— George Washington Carver, black American scientist, died 1943.
6 Día de los Reyes Magos (Three Kings' Day), Latin America.
—Epiphany (Twelfth Night) celebrated by Christians.
—Charles Sumner, American statesman and antislavery leader, born 1811.
— Carl Sandburg, American poet, born 1878.
— New Mexico became the 47th U.S. state, 1912.
7 First American presidential election, 1789.
— Millard Fillmore, 13th U.S. president, born 1800.
— Transatlantic commercial telephone service began, New York to London, 1927.
8 Andrew Jackson defeated the British at the Battle of New Orleans in 1815, during the War of 1812.
— President Wilson stated his "Fourteen Points" before the American Congress, 1918.
9 Connecticut ratified the U.S. Constitution, 1788.
— Carrie Chapman Catt, American women's suffrage leader, born 1859.
— Richard M. Nixon, 37th U.S. president, born 1913.
10 Thomas Paine published his *Common Sense*, 1776.
— John W. Root, American architect, born 1850.
— First great oil strike in Texas, 1901.
— League of Nations established, 1920.
— First UN General Assembly met, London, 1946.
11 Alexander Hamilton, U.S. statesman, born 1755 or 1757.
— Sir John Macdonald, first prime minister of Canada after the confederation, born 1815.
12 Governor John Winthrop of Massachusetts Bay Colony, born 1588.
— Jack London, American novelist, born 1876.
— Pieter Willem Botha, South African president, born 1916.
13 Salmon P. Chase, antislavery leader and chief justice of the United States, born 1808.
14 Benedict Arnold, American Revolutionary War general and traitor, born 1741.
— Albert Schweitzer, German physician, musician, philosopher, and missionary, born 1875.
— Casablanca Conference opened, 1943.
15 Molière, French dramatist, born 1622.
— Martin Luther King, Jr., American civil rights leader, born 1929.
— Aswan Dam in the Nile River, Egypt, dedicated 1971.



Jan. birthstone—garnet



Jan. flower—carnation



Jan. 1—Betsy Ross born



Jan. 10—First big oil strike in North America

January flowers are the carnation and the snowdrop. The garnet is the birthstone for January. Carole S. Angell

Quotations

Ring out the old, ring in the new,
Ring, happy bells, across the snow;
The year is going, let him go;
Ring out the false, ring in the true.
Alfred, Lord Tennyson

Blasts of January would blow you through and through.
William Shakespeare

Related articles in *World Book* include:

Calendar	Garnet	New Year's Day	Snowdrop
Epiphany	Janus		

Janus, *JAY nuhs,* in Roman mythology, was a god who had two faces that looked in opposite directions. One face looked into the past, and the other looked into the future. Janus served as the god of gates and doors and of entrances and exits. His name comes from the Latin word *janua,* meaning *gate.*

The Romans prayed to Janus at the beginning and end of any important action, especially a war. The doors to Janus' temple in Rome always remained open in wartime. They were closed only during the rare periods when Rome was at peace. The Romans called on Janus at the beginning of every prayer, even ahead of Jupiter, the king of the gods. January, the first month of the year, was named for Janus.

Other Indo-European peoples had a god who resembled Janus. For example, the early Hindus in India prayed to a two-faced god named Vayu before starting any major undertaking. C. Scott Littleton

See also **New Year's Day** (Early customs).

Important January events

16 Amendment 18 to the U.S. Constitution, prohibiting the sale of alcoholic beverages, ratified, 1919.
— Shah Mohammad Reza Pahlavi left Iran following mass demonstrations against his rule, 1979.
17 Benjamin Franklin, American statesman and inventor, born 1706.
— Anton Chekhov, Russian playwright and short-story writer, born 1860.
— David Lloyd George, British statesman and prime minister, born 1863.
18 Daniel Webster, American statesman, born 1782.
— A. A. Milne, British author for children, born 1882.
— Versailles Peace Conference opened in 1919, following World War I.
19 James Watt, Scottish inventor, born 1736.
— Robert E. Lee, commander of the Confederate Army in the American Civil War, born 1807.
— Edgar Allan Poe, American author, born 1809.
— Sir Henry Bessemer, British steelmaker, born 1813.
— Paul Cézanne, French painter, born 1839.
20 Presidential Inauguration Day in the United States, every fourth year since 1937.
21 King Louis XVI of France executed, 1793.
— Stonewall Jackson, Confederate Army general in the American Civil War, born 1824.
— V. I. Lenin, Soviet dictator, died 1924.
— The U.S.S. *Nautilus,* first nuclear-powered ship, launched 1954.
22 Francis Bacon, English philosopher and essayist, born 1561.
— Lord Byron, English poet, born 1788.
— August Strindberg, Swedish dramatist, born 1849.
23 John Hancock, first signer of the American Declaration of Independence, born 1737.
—Edouard Manet, French painter, born 1832.
24 Gold discovered in California, 1848.
— Edith Wharton, American author, born 1862.
25 Robert Burns, Scottish poet, born 1759.
— Transcontinental telephone service established in the United States, 1915.
26 Republic Day, India.
— Sydney founded, 1788; celebrated as Australia Day.
— Michigan became the 26th U.S. state, 1837.
— Douglas MacArthur, American general, born 1880.
— World's largest diamond, the Cullinan diamond, found in South Africa in 1905.
27 Wolfgang Amadeus Mozart, Austrian composer, born 1756.
— Lewis Carroll, English author, born 1832.
— Thomas Edison granted the first patent for his incandescent light, 1880.
— Canadian Great Western Railway opened, 1854.
28 Alexander Mackenzie, Canadian prime minister, born 1822.
— Sir Henry Morton Stanley, who explored Africa, born 1841.
— U.S. space shuttle Challenger broke apart, killing all seven crew members aboard, 1986.
29 William McKinley, 25th U.S. president, born 1843.
— Kansas became the 34th U.S. state, 1861.
30 United States Congress authorized purchase of Thomas Jefferson's library as nucleus of the Library of Congress, 1815.
— Franklin D. Roosevelt, 32nd U.S. president, born 1882.
— Adolf Hitler named chancellor of Germany, 1933.
— Mohandas K. Gandhi, spiritual and political leader of India, assassinated, in 1948.
31 Nauru became independent in 1968.
— Gouverneur Morris, American Revolutionary War patriot, born 1752.
— Franz Schubert, Austrian composer, born 1797.

WORLD BOOK illustrations by Mike Hagel



Jan 15—Martin Luther King, Jr., born



Jan 20—Inauguration Day in United States



Jan 24—Gold discovered in California



Jan 27—Canadian Great Western R.R. opened



Tony Stone Images

Japan is rich in both advanced technology and natural beauty. Japan's *shinkansen,* also called the "bullet train," speeds to its destination through fertile fields, *shown here.* Lovely Mount Fuji, a volcanic peak considered sacred by many Japanese people, seems to float in the background.

Japan

Japan is an island country in the North Pacific Ocean. It lies off the east coast of mainland Asia across from Russia, Korea, and China. Four large islands and thousands of smaller ones make up Japan. The four major islands—Hokkaido, Honshu, Kyushu, and Shikoku—form a curve that extends for about 1,200 miles (1,900 kilometers). About 127 million people are crowded on these islands, making Japan one of the most densely populated countries in the world.

The Japanese call their country *Nippon* or *Nihon,* which means *source of the sun.* The name *Japan* may have come from *Zipangu,* the Italian name given to the country by Marco Polo, a Venetian traveler of the late 1200's. Polo had heard of the Japanese islands while traveling through China.

Mountains and hills cover most of Japan, making it a country of great beauty. But the mountains and hills take up so much area that the great majority of the people live on a small portion of the land—narrow plains along the coasts. These coastal plains have much of Japan's best farmland and most of the country's major cities. Most of the people live in urban areas. Japan's big cities are busy, modern centers of culture, commerce, and industry. Tokyo is the capital and largest city.

Gary D. Allinson, the contributor of this article, is Professor of Modern Japanese History at the University of Virginia and the author of Japanese Urbanism *and* Japan's Postwar History.

Japan is one of the world's economic giants. Its total economic output is exceeded only by that of the United States. The Japanese manufacture a wide variety of products, including automobiles, computers, steel, television sets, textiles, and tires. The country's factories have some of the most advanced equipment in the world. Japan has become a major economic power even though it has few natural resources. Japan imports many of the raw materials needed for industry and exports finished manufactured goods.

Life in Japan reflects the culture of both the East and the West. For example, the favorite sporting events in the country are baseball games and exhibitions of *sumo,* an ancient Japanese style of wrestling. Although most Japanese wear Western-style clothing, many women dress in the traditional *kimono* for festivals and other special occasions. The Japanese *no* and *kabuki* dramas, both hundreds of years old, remain popular. But the Japanese people also flock to see motion pictures and rock music groups. Many Japanese artworks combine traditional and Western styles and themes.

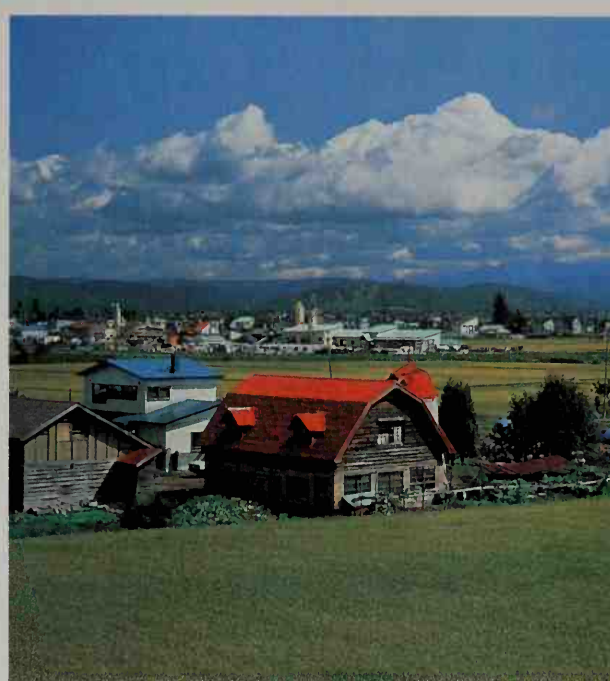
Early Japan was greatly influenced by the neighboring Chinese civilization. From the late 400's to the early 800's, the Japanese borrowed heavily from Chinese art, government, language, religion, and technology. In the mid-1500's, the first Europeans arrived in Japan. Trade began with several European countries, and Christian missionaries from Europe converted some Japanese. During the early 1600's, however, the rulers of Japan decided to cut the country's ties with the rest of the world. They wanted to keep Japan free from outside influences.

Japan's isolation lasted until 1853, when Commodore



Paul Chesley, Tony Stone Images

A Tokyo railway station, the Shinjuku station, *shown here,* is crowded with commuters. It handles millions of riders a day.



Gavin Hellier, Tony Stone Images

A farm in central Hokkaido grows rice. Farmland is limited in Japan because mountains and hills cover most of the country.

Matthew C. Perry of the United States sailed his warships into Tokyo Bay. As a result of this show of force, Japan agreed in 1854 to open two ports to U.S. trade.

During the 1870's, the Japanese government began a major drive to modernize the country. New ideas and manufacturing methods were imported from Western countries. By the early 1900's, Japan had become an industrial and military power.

During the 1930's, Japan's military leaders gained control of the government. They set Japan on a program of conquest. On Dec. 7, 1941, Japan attacked United States military bases at Pearl Harbor in Hawaii, bringing the United States into World War II. The Japanese won many early victories, but then the tide turned in favor of the United States and the other Allied nations. In August 1945, U.S. planes dropped the first atomic bombs used in warfare on the Japanese cities of Hiroshima and Nagasaki. On Sept. 2, 1945, Japan officially surrendered, and World War II ended.

World War II left Japan completely defeated. Many Japanese cities lay in ruins, industries were shattered, and Allied forces occupied the country. But the Japanese people worked hard to overcome the effects of the war. By the 1970's, Japan had become a great industrial nation. The success of the Japanese economy attracted attention throughout the world. Today, few nations enjoy a standard of living as high as Japan's.

Government

Japan is a constitutional monarchy with a parliamentary government. The Constitution, which took effect in 1947, guarantees many rights to the people, including freedom of religion, speech, and the press. It awards the vote to all men and women age 20 and older. The Constitution establishes three branches of government—the executive, the legislative, and the judicial.

National government. Japan's emperor is considered a symbol of the nation. The emperor performs some ceremonial duties specified in the Constitution, but he does not possess any real power to govern. The emperor inherits his throne.

The Diet is the national legislature, the highest lawmaking body of Japan. The Diet consists of two houses, the House of Representatives and the House of Councillors. The representatives have slightly more power under the Constitution than the councillors do.

The House of Representatives has 480 members who are elected to serve terms of up to four years. Three hundred representatives are elected directly from 300 electoral districts. The other 180 are chosen under a system called *proportional representation,* which gives a political party a share of seats in the Diet according to its share of the total votes cast.

The House of Councillors has 252 members. They are chosen in two ways—100 from the nation as a whole and 152 from small districts. Councillors serve six-year terms.

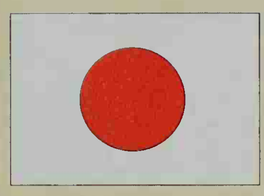
The prime minister is the head of the executive branch of the government. The prime minister leads the government and represents Japan abroad. Members of the Diet elect the prime minister, who must be a civilian and an elected member of the Diet. The prime minister selects members of the Cabinet to help govern the country. At least half the Cabinet ministers must be members of the Diet.

Japan in brief

General information

Capital: Tokyo.
Official language: Japanese.
Official name: *Nippon* or *Nihon* (Source of the Sun).
National anthem: "Kimigayo" ("The Reign of Our Emperor").
Largest cities: (2000 census)

Tokyo (8,130,408)	Sapporo (1,822,300)
Yokohama (3,426,506)	Kobe (1,493,595)
Osaka (2,598,589)	Kyoto (1,467,705)
Nagoya (2,171,378)	Fukuoka (1,341,489)



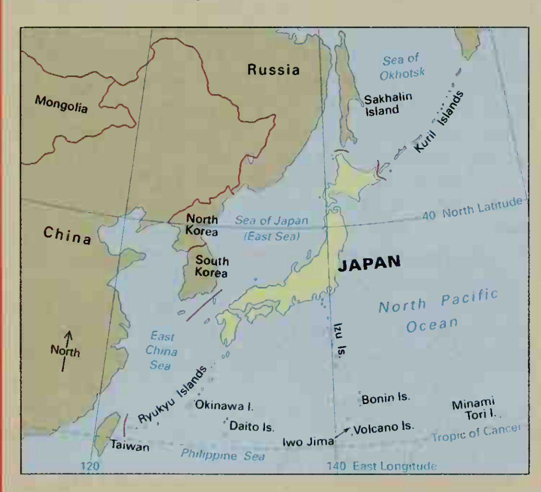
Japan's flag, first used as a national flag in the mid-1800's, is a red sun on a white background. The Japanese call the country *Nippon* or *Nihon,* meaning *source of the sun.*



The imperial mon (badge) consists of a chrysanthemum with 16 petals. This symbol of the imperial family dates back hundreds of years.

Land and climate

Land: Japan lies in the North Pacific Ocean off the east coast of mainland Asia. It lies across from Russia, Korea, and China. Japan has four main islands—Hokkaido, Honshu, Kyushu, and Shikoku—and thousands of smaller ones. Mountains and hills cover most of the country. Narrow plains lie along the coasts. Most of the Japanese people live on the coastal plains.



Area: 145,881 mi² (377,829 km²). The four main islands—Hokkaido, Honshu, Kyushu, Shikoku—stretch about 1,200 mi (1,900 km) from northeast to southwest. *Coastline*—5,857 mi (9,426 km).
Elevation: *Highest*—Mount Fuji, 12,388 ft (3,776 m) above sea level. *Lowest*—sea level.
Climate: Central and southern Japan have hot summers, mild winters, and moderate precipitation in all seasons. Daytime high temperatures average about 86 °F (30 °C) in the hottest month, August, and about 46 °F (8 °C) in January, the coldest month. Hokkaido, northern Honshu, and high mountain areas are much colder than the rest of the country in winter and cooler in summer.

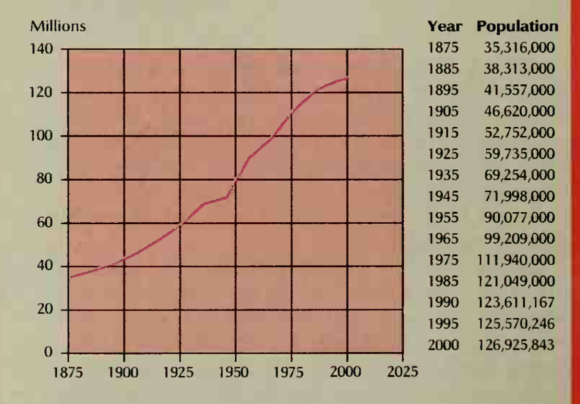
Government

Form of government: Parliamentary democracy with ceremonial emperor.
Ceremonial head of state: Emperor.
Head of government: Prime minister.
Legislature: Diet of two houses: 480-member House of Representatives and 252-member House of Councillors.
Executive: Prime minister (chosen by Diet), assisted by Cabinet (chosen by prime minister).
Political subdivisions: 47 prefectures.

People

Population: *2002 estimate*—127,018,000. *2000 census*—126,925,843.
Population density: 871 per mi² (336 per km²).
Distribution: 78 percent urban, 22 percent rural.
Major ethnic/national groups: Almost entirely Japanese. Small minority of Koreans and some Chinese.
Major religions: Shinto, the native religion of Japan, and Buddhism. Not many Japanese strictly practice either religion, but almost everyone engages in some practices or rituals based on these two religious traditions. A small percentage of the population is Christian.

Population trend



Year	Population
1875	35,316,000
1885	38,313,000
1895	41,557,000
1905	46,620,000
1915	52,752,000
1925	59,735,000
1935	69,254,000
1945	71,998,000
1955	90,077,000
1965	99,209,000
1975	111,940,000
1985	121,049,000
1990	123,611,167
1995	125,570,246
2000	126,925,843

Economy

Chief products: *Agriculture*—cabbage, Chinese cabbage, hogs, mandarin oranges, milk, potatoes, poultry and eggs, rice, strawberries, tea, white radishes. *Fishing*—clams, eels, mackerel, oysters, pollock, salmon, sardines, scallops, squid, tuna. *Manufacturing*—automobiles, cement, chemicals, computers, iron and steel, optical equipment, paper and newsprint, processed foods, television sets, textiles, tires, watches. *Mining*—coal.
Money: *Basic unit*—yen. One hundred sen equal one yen. See also Yen.
Foreign trade: *Major exported goods*—chemicals, electronic equipment, iron and steel, motor vehicles, office machinery, scientific and optical equipment. *Major imported goods*—chemicals, electrical equipment, fish and shellfish, machinery, metal ores, petroleum. *Main trading partners*—China, Germany, South Korea, Taiwan, United States.

Local government. Japan is divided into 47 political units called *prefectures.* The residents of each prefecture elect a governor and representatives to a prefectural legislative assembly. The residents of each city, town, and village also elect a mayor and a local council.

Politics. The Liberal Democratic Party is the largest of Japan's political parties. Other important parties include the Democratic Party of Japan, the Liberal Party, the New Harbinger Party, and the Social Democratic Party.

Courts. The Supreme Court is the nation's highest court. It consists of 1 chief justice and 14 associate justices. The Cabinet names, and the emperor appoints, the chief justice. The Cabinet appoints the associate justices. Every 10 years, the people have an opportunity to remove a justice from the court by voting in a referendum.

The Supreme Court oversees the training of Japan's judges and attorneys. It also administers the national system of courts. The court system includes 8 regional high courts; 50 district courts; many summary courts, which handle minor offenses and small claims without the formal procedures of other courts; and numerous family courts, which handle domestic cases.

Armed forces. The Constitution prohibits Japan from maintaining military forces to wage war. But Japan does have a Self-Defense Agency created to preserve Japan's peace, independence, and national security. A civilian member of the Cabinet heads the agency. The agency oversees an army, a navy, and an air force consisting of about 240,000 members. All service is voluntary.

People

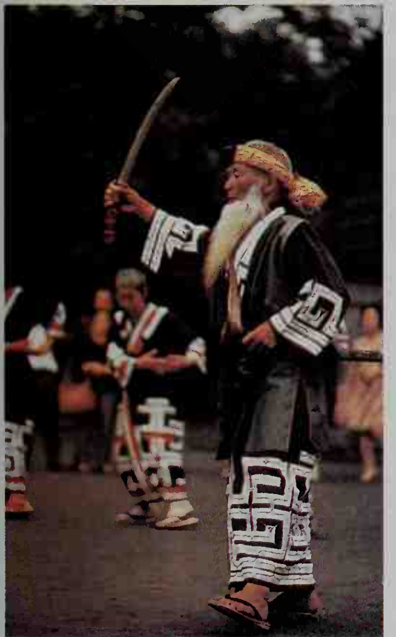
Japan is one of the world's most populous nations. About 90 percent of the people live on the coastal plains, which make up only about 20 percent of Japan's territory. These plains rank among the most thickly populated places in the world. Millions of people crowd the big cities along the coasts, including Tokyo, Japan's capital and largest city. The Tokyo metropolitan region, which includes the cities of Yokohama and Kawasaki, is the most populous urban area in the world.

Ancestry. The Japanese are descended from peoples who migrated to the islands from other parts of Asia. Many of these peoples came in waves from the northeastern part of the Asian mainland, passing through the Korean Peninsula. Some ancestors of the Japanese may have come from islands south of Japan.

Historians do not know for certain when people first arrived in Japan. But by about 10,000 B.C., the Japanese islands were inhabited by people who hunted, fished, and gathered fruits and plants for food. This early culture is known as the *Jomon,* which means *cord-marked,* because the people made pottery that was covered with the impressions of ropes or cords.

About 300 B.C., a new, settled agricultural society began to replace the Jomon. This culture is called the *Yayoi,* after the section of modern Tokyo where remains of the culture were found. The Yayoi people grew rice in irrigated fields and established villages. They cast bronze into bells, mirrors, and weapons. The Japanese people of today are probably descended from the Yayoi. In fact, scholars believe that by A.D. 100 the people living throughout the islands closely resembled the present-day Japanese in language and appearance.

Chinese, Koreans, and a group of people called the *Ainu* (pronounced *EYE noo*) make up Japan's largest minority groups. The country has about 70,000 Chinese,



Dave Bartruff

The Ainu may have been Japan's original inhabitants. Most of them now live on Hokkaido, the country's northernmost island.



Mike Yamashita

An Osaka street scene reflects the common ancestry of most Japanese. Many ancestors of the Japanese came from the Asian mainland. Others may have come from islands south of Japan. The nation has a few small minority groups, such as the Ainu.

Japan map index

Prefectures

Aichi	7,043,300	H	6
Akita	1,189,279	D	7
Aomori	1,475,728	D	8
Chiba	5,926,285	H	7
Ehime	1,493,092	I	3
Fukui	828,944	G	5
Fukuoka	5,015,899	I	2
Fukushima	2,126,935	F	8
Gifu	2,107,700	G	5
Gunma	2,024,852	G	6
Hiroshima	2,878,915	H	3
Hokkaido	5,683,062	B	8
Hyogo	5,550,574	H	4
Ibaraki	2,985,676	G	7
Ishikawa	1,180,977	G	5
Iwate	1,416,180	E	8
Kagawa	1,022,890	H	4
Kagoshima	1,786,194	J	2
Kanagawa	8,489,974	H	7
Kochi	813,949	I	4
Kumamoto	1,859,344	I	2
Kyoto	2,644,391	H	5
Mie	1,857,339	H	5
Miyagi	2,365,320	E	8
Miyazaki	1,170,007	I	2
Nagano	2,215,168	G	6
Nagasaki	1,516,523	I	2
Nara	1,442,795	H	5
Niigata	2,475,733	F	6
Oita	1,221,140	I	3
Okayama	1,950,828	H	4
Okinawa†	1,318,220		
Osaka	8,805,081	H	5
Saga	876,654	I	2
Saitama	6,938,006	G	7
Shiga	1,342,832	H	5
Shimane	761,503	H	3
Shizuoka	3,767,393	G	7
Tochigi	2,004,817	H	6
Tokushima	824,108	I	4
Tokyo	12,064,101	G	7
Tottori	613,289	G	4
Toyama	1,120,851	G	6
Wakayama	1,069,912	I	5
Yamagata	1,244,147	E	7
Yamaguchi	1,527,964	H	2
Yamanashi	888,172	G	6

Cities and towns

Abashiri	43,398	B	9
Abiko*	127,718	G	7
Ageo*	212,949	G	7
Aizuwakamatsu	118,126	F	7
Akashi*	293,122	H	4
Akishima*	106,547	G	7
Akita	317,563	D	7
Ako	52,077	H	4
Amagasaki	466,161	H	5
Anan	56,721	I	4
Anjo	158,826	H	5
Aomori	297,763	D	7
Asahigawa (Asahikawa)	359,526	B	8
Asaka*	119,716	G	7
Ashikaga	163,136	G	7
Ashiya*	83,838	H	4
Atsugi*	217,366	G	7
Beppu	126,518	I	2
Chiba	887,163	G	7
Chigasaki*	220,810	G	7
Chofu*	204,758	G	7
Choshi	78,695	G	8
Daito*	129,011	H	5
Ebetsu	123,875	B	8
Ebina*	117,510	G	7
Fuchu*	226,769	G	7
Fuji	234,192	H	6
Fujieda*	128,477	H	6
Fujimi*	103,228	G	7
Fujinomiya*	120,233	H	6
Fujisawa	379,151	H	7
Fukaya*	103,533	G	7
Fukui	252,274	G	5
Fukuoka	1,341,489	I	2
Fukushima	291,117	F	7
Fukuyama	378,793	H	4
Funabashi	550,079	G	7
Gamagori*	82,106	H	6
Gifu	402,748	G	5
Ginowan†	86,745		
Habikino*	119,254	H	5
Hachinohe	241,925	D	8
Hachioji*	536,000	G	7
Hadano*	168,185	G	7
Hagi	46,003	H	2
Hakodate	287,648	C	7
Hamada	47,188	H	3
Hamamatsu	582,120	H	6
Hanamaki	72,995	E	8
Handa*	110,819	H	5
Higashikurume*	113,264	G	7
Higashimurayama*	142,311	G	7
Higashiosaka	515,055	H	5
Hikone	107,864	H	5
Himeji	478,312	H	4
Hino*	167,934	G	7
Hirakata*	402,586	H	5
Hiratsuka	254,630	H	7
Hirosaki	177,086	D	7
Hiroshima	1,126,282	H	3
Hitachi	193,346	G	7
Hofu	117,726	H	3
Hoya*	102,713	G	7
Ibaraki*	260,644	H	5
Ichihara*	278,277	G	7
Ichikawa*	448,553	G	7
Ichinomiya	273,709	H	5
Iida*	107,378	G	6
Iizuka	80,644	I	2
Ikeda*	101,601	H	5
Imabari	117,931	H	3
Inazawa*	100,273	H	6
Iruma*	147,905	G	7
Isahaya	95,183	I	2
Ise	100,144	H	5
Isesaki*	125,762	G	6
Ishinomaki	119,796	E	8
Itami*	192,152	H	4
Ito	71,720	H	7
Iwaki	360,143	F	8
Iwakuni	105,765	H	3
Iwamizawa	85,027	B	8
Iwatsuki*	109,278	G	7
Izumi	200,372	E	7
Izumi*	172,975	H	5
Izumisano*	96,064	H	5
Izumo	87,330	H	3
Joetsu	134,763	F	6
Kadoma*	135,669	H	5
Kagoshima	552,099	J	2
Kakamigahara*	131,990	G	5
Kakogawa*	266,175	H	4
Kamagaya*	102,579	G	7
Kamaishi	46,520	E	8
Kamakura*	167,585	G	7
Kanazawa	456,434	G	5
Kariya*	132,060	H	6
Kashihara*	125,016	H	5
Kashiwa*	327,868	G	7
Kashiwazaki	88,419	F	6
Kasugai	287,619	H	5
Kasukabe*	203,646	G	7
Kawachinagano*	121,012	H	5
Kawagoe	330,737	G	7
Kawaguchi*	459,952	G	7
Kawanishi*	153,762	H	4
Kawasaki	1,249,851	G	7
Kimitsu*	92,074	G	7
Kiryu	115,435	G	7
Kisarazu*	122,766	G	7
Kishiwada	200,115	H	5
Kitakyushu	1,011,491	H	2
Kitami	112,039	B	9
Kobe	1,493,595	H	4
Kochi	330,613	I	4
Kodaira*	178,562	G	7
Kofu	196,155	G	6
Koganei*	111,665	G	7
Kokubunji*	111,310	G	7
Komaki*	143,117	H	6
Komatsu	108,615	G	5
Konan*	97,922	H	6
Koriyama	334,845	F	7
Koshigaya*	308,277	G	7
Kumagaya	156,192	G	7
Kumamoto	662,123	I	2
Kurashiki	430,239	H	4
Kurayoshi	49,719	H	4
Kure	203,147	H	3
Kuroiso	58,786	F	7
Kurume	236,529	I	2
Kusatsu*	115,450	H	5
Kushiro	191,747	B	9
Kuwana*	108,417	H	5
Kyoto	1,467,705	H	5
Machida*	377,546	G	7
Maebashi	284,156	G	6
Maizuru	94,060	H	5
Marugame	80,105	H	4
Masuda	50,127	H	3
Matsubara*	132,560	H	5
Matsudo*	464,836	G	7
Matsue	152,618	G	3
Matsumoto	208,972	G	6
Matsuyama	473,397	I	3
Matsuzaka (Matsusaka)	123,723	H	5
Mihara	82,083	H	3
Minoh*	124,905	H	5
Misato*	131,056	G	7
Mishima*	110,522	H	6
Mitaka*	171,601	G	7
Mito	246,748	G	7
Miyako	54,638	E	8
Miyakonojo	131,918	J	2
Miyazaki	305,777	J	2
Moriguchi*	152,032	H	5
Morioka	288,844	E	7
Muroran	103,275	C	7
Musashino*	135,775	G	7
Nagano	360,117	G	6
Nagaoka	193,414	F	6
Nagareyama*	150,520	G	7
Nagasaki	423,163	I	2
Nagoya	2,171,378	H	5
Naha†	301,107		
Nara	366,196	H	5
Narishino*	154,040	G	7
Nemuro	33,150	B	10
Neyagawa*	250,837	H	5
Niigata	501,378	F	6
Niihama	125,539	I	4
Niiza*	149,516	G	7
Nishinomiya*	438,129	H	4
Nishio*	100,804	H	6
Nobeoka	124,762	I	3
Noda*	119,941	G	7
Noshiro	53,261	D	7
Numazu	207,565	H	7
Obihiro	173,033	B	9
Odawara	200,173	H	7
Ogaki	150,238	H	5
Oita	436,490	I	3
Okaya	56,408	G	6
Okayama	626,534	H	4
Okazaki	336,570	H	6
Okinawa†	119,699		
Ome*	141,307	G	7
Omiya	456,164	G	7
Omuta	138,635	I	2
Onomichi	92,592	H	3
Osaka	2,598,589	H	5
Ota*	147,897	G	6
Otaru	150,677	B	7
Otsu	288,232	H	5
Oyama	155,198	G	7
Saga	167,972	I	2
Sagamihara*	605,555	G	7
Saiki	50,120	I	3
Sakado*	97,375	G	7
Sakai	792,034	H	5
Sakata	101,311	E	7
Sakura*	170,931	G	7
Sanjo	84,446	F	7
Sano*	83,410	H	5
Sapporo	1,822,300	B	7
Sasebo	240,837	I	2
Sayama*	161,467	G	7
Sendai	1,008,024	F	7
Seto	131,650	H	6
Settsu*	85,060	H	5
Shibata	80,735	F	7
Shimizu	236,822	H	6
Shimonoseki	252,390	H	2
Shiogama	61,550	F	8
Shizuoka	469,679	H	6
Soka*	224,977	G	7
Suita*	347,938	H	5
Suzuka	186,138	H	5
Tachikawa*	164,634	G	7
Tajimi*	104,134	G	5
Takamatsu	332,866	H	4
Takaoka	172,171	G	5
Takarazuka*	213,033	H	4
Takasago*	96,018	H	4
Takasaki	239,885	G	7
Takasuki*	357,440	H	5
Takefu	73,794	G	5
Takikawa	46,858	B	8
Tama*	145,859	G	7
Tanabe	70,360	I	5
Tatebayashi*	79,369	G	6
Tateyama	51,408	H	7
Tochigi*	83,855	G	7
Toda*	108,092	G	7
Tokai*	99,917	H	6
Tokorozawa*	330,152	G	7
Tokushima	268,116	H	4
Tokuyama	104,658	H	3
Tokyo	8,130,408	G	7
Tomakomai	172,077	B	8
Tondabayashi*	126,551	H	5
Tottori	150,436	G	4
Toyama	325,693	G	6
Toyohashi	364,868	H	6
Toyokawa*	117,356	H	6
Toyonaka*	391,732	H	5
Toyota*	351,068	H	6
Tsu	163,251	H	5
Tsuchiura*	134,710	G	7
Tsukuba	165,968	G	7
Tsuruga	68,148	G	5
Tsuruoka	100,629	E	7
Tsuyama	90,151	H	4
Ube	174,427	H	2
Ueda	125,344	G	6
Uji*	189,113	H	5
Urasoe†	102,746		
Urawa	484,834	G	7
Urayasu*	133,012	G	7
Usa	49,314	I	2
Ushiku*	73,259	G	7
Utsunomiya	443,787	G	7
Wakayama	386,501	H	5
Wakkanai	43,774	A	8
Yachiyo*	168,928	G	7
Yaizu*	118,247	H	6
Yamagata	255,333	F	7
Yamaguchi	140,458	H	2
Yamato*	212,752	G	7
Yamatokoriyama*	94,208	H	5
Yao*	274,779	H	5
Yatsushiro	106,145	I	2
Yokkaichi	291,106	H	5
Yokohama	3,426,506	G	7
Yokosuka	428,836	H	7
Yonago	138,702	G	4
Yonezawa	95,392	F	7
Yono*	82,939	G	7
Zama*	125,683	G	7

*Does not appear on map; key shows general location.
†Does not appear on map; lies south of the main islands.
Source: 2000 census.

Japan political map

National park (N.P.)
International boundary
Prefecture boundary
Expressway
Road
Express railroad
Other railroad
National capital
Prefectural capital
Other city or town

WORLD BOOK map

Okinawa Prefecture lies south of the main islands.



4
5
6
7
8
9
10
135 East Longitude
140
145
A
B
C
D
E
F
G
H
I
J
RUSSIA
Ussuri
Ulakhe
Sea of Okhotsk
Russia claims and occupies the Kuril Islands. But Japan also claims the southernmost Kurils.
Kuril Islands
Iturup I.
Kunashir I.
Shikotan I.
Habomai Is.
Nemuro
Nemuro Strait
Soya Point
Wakkanai
Rebun I.
RISHIRI-REBUN-SAROBETSU N.P.
Rishiri I.
Teshio
Yagishiri I.
Teuri I.
Nayoro
Hokkaido
SHIRETOKO N.P.
Abashiri
Kitami
Kussharo Lake
AKAN N.P.
Asahigawa
DAISETSUZAN N.P.
Takikawa
Ishikari Bay
Ishikari
Bibai
Iwamizawa
Kamui Cape
Otaru
Sapporo
Ebetsu
Yubari
Obihiro
Kushiro
Tokachi
SHIKOTSU-TOYA N.P.
Shikotsu Lake
Toya Lake
Tomakomai
Uchiura Bay
Muroran
Okushiri I.
Erimo Cape
Hakodate
Esan Point
O Island
Ko Island
Tsugaru Strait
SEIKAN TUNNEL
Shiriya Cape
Mutsu Bay
Aomori
Hirosaki
Towada
Towada L.
Hachinohe
Kyuroku I.
TOWADA-HACHIMANTAI N.P.
Noshiro
Yoneshiro
40° North Latitude
Nyudo Cape
Akita
Tazawa L.
Morioka
Miyako
Iwate
RIKUCHU COAST N.P.
Hanamaki
Kamaishi
Kitakami
Omono
Sea of Japan (East Sea)
Tobi I.
JAPAN
Sakata
Tsuruoka
Yamagata
Mogami
Furukawa
Miyagi
Awa I.
Ishinomaki
Shiogama
Sendai
Izumi
Tendo
BANDAI-ASAHI N.P.
Yamagata
North
Sado
Shibata
Niigata
Yonezawa
Soma
Hekura I.
Fukushima
Niigata
Aizuwakamatsu
Fukushima
Nagaoka
Sanjo
Inawashiro Lake
Koriyama
TOHOKU LINE
Wajima
Kashiwazaki
JOETSU LINE
North Pacific Ocean
Nanao
Toyama Bay
Joetsu
Shinano
NIKKO N.P.
Iwaki
Ishikawa
Toyama
JOSHIN-ETSU PLATEAU N.P.
Tochigi
Kuroiso
Honshu
Takaoka
Toyama
Utsunomiya
Kanazawa
Nagano
Gunma
Hitachi
Ibaraki
Komatsu
JAPANESE ALPS N.P.
Maebashi
Kiryu
Ashikaga
Ueda
Takasaki
Tone
Oyama
Mito
Kasumiga Lake
Matsumoto
Kumagaya
Saitama
Tsukuba
Fukui
Takayama
Okaya
Omiya
Sabae
HAKUSAN N.P.
Nagano
CHICHIBU-TAMA N.P.
Kawagoe
Urawa
Fukui
Takefu
Gifu
SOUTHERN ALPS N.P.
Yamanashi
Tokyo
Funabashi
Choshi
Wakasa Bay
Tsuruga
Kofu
Chiba
Tokyo Bay
Maizuru
Shiga
Ogaki
Gifu
Yokohama
Kawasaki
Kyoto
Biwa L.
Hikone
Ichinomiya
Hiratsuka
Fujisawa
Chiba
Fukuchiyama
Hyogo
Kyoto
Otsu
Kasugai
Seto
Nagoya
Odawara
Yokosuka
Kanagawa
Tsuyama
Shimizu
Fuji
Numazu
Kamogawa
35°
Himeji
Yokkaichi
Suzuka
Anjo
Okazaki
Shizuoka
Ito
Sagami Bay
Tateyama
Amagasaki
Osaka
Aichi
Shizuoka
Suruga Bay
Ako
Kobe
Osaka
Nara
Tsu
Ise Bay
Toyohashi
O-shima
Sakai
Higashiosaka
Matsuzaka
Hamamatsu
FUJI-HAKONE-IZU N.P.
Harima Sea
Awaji I.
TOKAIDO LINE
Nii I.
Takamatsu
Kishiwada
Mie
Ise
ISE-SHIMA N.P.
Kozu I.
Wakayama
Nara
Miyake I.
Izu Islands
Arida
Owashi
Anan
Gobo
YOSHINO-KUMANO N.P.
Mikura I.
Tokushima
Kii Channel
Tanabe
Wakayama
Shingu
Shikoku
Shiono Cape
Muroto Point
Hachijo I.
Aoga I.
Sumisu I.
...pan's territory also includes the following smaller islands
...uth of the main islands: the Ryukyu Islands, Daito Islands,
...lcano Islands, Bonin Islands, and Minami Tori Island.
...e the locator map with this article.
135 East Longitude
140°
145°
400
500
600
700
800
900 Miles
500
600
700
800
900
1,000
1,100
1,200
1,300
1,400 Kilometers

about 675,000 Koreans, and about 15,000 Ainu. Most of the Ainu live on Hokkaido, the northernmost of Japan's main islands. Many Ainu have intermarried with the Japanese and adopted the Japanese culture. The rest of the Ainu are ethnically and culturally different from the Japanese. Some scholars believe the Ainu were Japan's original inhabitants, who were pushed northward by the ancestors of the present-day Japanese people.

Japan's minority groups suffer from prejudice. But the people who have suffered the most injustices are a group of Japanese known as the *burakumin.* The burakumin number about 3 million. They came from *buraku* (villages) traditionally associated with such tasks as the execution of criminals, the slaughter of cattle, and the tanning of leather. According to Japanese religious traditions, these tasks and the people who performed them were considered unclean. As a result, the burakumin—though not ethnically different from other Japanese—have long been discriminated against. Many of the burakumin live in segregated urban slums or special villages. The burakumin have started an active social movement to achieve fair treatment, but they have had only limited success so far.

Language. Japanese is the official language of Japan. Spoken Japanese has many local dialects. These local dialects differ greatly in pronunciation. However, the Tokyo dialect is the standard form of spoken Japanese. Almost all the people understand the Tokyo dialect, which is used in schools and on radio and television. Many Japanese can also speak English to some extent. A number of Japanese words, such as *aisu kuriimu* (ice cream) and *guruupu* (group), are based on English.

Where the people of Japan live

Most of Japan's people live near the coasts. The Pacific coast from Tokyo to Kobe is the most densely populated area. The mountainous interiors of the islands are thinly settled.

WORLD BOOK map

Written Japanese is considered one of the most difficult writing systems in the world. It uses Japanese phonetic symbols that represent sounds as well as Chinese characters. Each character is a symbol that stands for a complete word or syllable. Schools in Japan also teach students to write the Japanese language with the letters of the Roman alphabet.

Way of life

City life. About three-fourths of the Japanese people live in urban areas. Most of the urban population is concentrated in three major metropolitan areas: (1) the Tokyo metropolitan region, which also includes the cities of Kawasaki and Yokohama; (2) Osaka; and (3) Nagoya.

The prosperity of Japanese society is visible in these cities. The downtown streets are filled with expensive, late-model automobiles and are lined with glittering high-rise buildings. The buildings house expensive apartments, prosperous firms, fashionable department stores, and elegant shops.

Most Japanese people who live in cities and suburbs enjoy a high standard of living. Many work in banks, hotels, offices, and stores. Others hold professional or government jobs.

Housing in metropolitan areas includes modern high-rise apartments and traditional Japanese houses. The houses are small because land prices are extremely high. Tokyo, for example, has some of the most expensive land in the world.

In traditional homes, the rooms are separated by sliding paper screens, which can be rearranged as needed. Straw mats called *tatami* cover the floors. People sit on cushions and sleep on a type of padded quilt called a *futon.* Today, many Japanese apartments and houses have one or more rooms fitted with carpets instead of tatami and containing Western-style chairs and tables.



Dave Bartruff

Apartment buildings in Osaka provide homes for many of the city's residents. Most Japanese people live in urban areas, and Japan's largest cities are among the most crowded in the world.

Japan's big cities, like those in many other countries, face such problems as overcrowding and air and water pollution. However, crime and poverty are not as common in Japan as they are in most Western nations.

Rural life. Only about one-fourth of the Japanese people live in rural areas. Farm families make up most of the rural population. In rural areas along the coasts, some Japanese make their living by fishing and harvesting edible seaweed.

Most families in rural areas live in traditional Japanese-style wooden houses like those in the cities. Housing is cheaper in the countryside than in cities, but it is still expensive by international standards.

Japan's rural areas face an uncertain future. Only about 15 percent of farm households live on their farming incomes alone. By taking second and third jobs, farmworkers maintain an average household income slightly higher than that of urban workers. But rural populations have declined as the children of farmers leave to work in Japan's cities.

Clothing. Some well-to-do Japanese buy designer-made garments, but the majority of the people purchase more moderately priced clothing. The styles they buy are similar to those worn in the United States and Western Europe.

For business and professional men, typical workday wear consists of a dark suit, white shirt, conservative tie, black shoes, and a dark woolen overcoat for winter. Younger men sometimes wear patterned sport coats and colorful ties. When not at work, Japanese men typically wear slacks and a casual shirt or sweater.

Most working women wear a skirt, blouse, and jacket to the office. Most women who do not work outside the home dress in moderately priced dresses or blouses with skirts or slacks when at home or in their own neighborhood. While in a major city shopping area or business district, many of these women wear expensive imported dresses or skirts, blouses, and jackets. For accessories, they wear fine jewelry and silk scarves.

On special occasions, such as weddings, funerals, or New Year's celebrations, Japanese women may dress in the traditional long garment called a *kimono.* A kimono is tied around the waist with a sash called an *obi* and worn with sandals known as *zori.*

Most Japanese children wear uniforms to school. The uniforms often consist of a black or navy jacket worn with matching shorts, skirt, or slacks. On weekends, Japanese children dress in the latest casual styles from Europe and the United States or in T-shirts printed with Japanese cartoon characters.

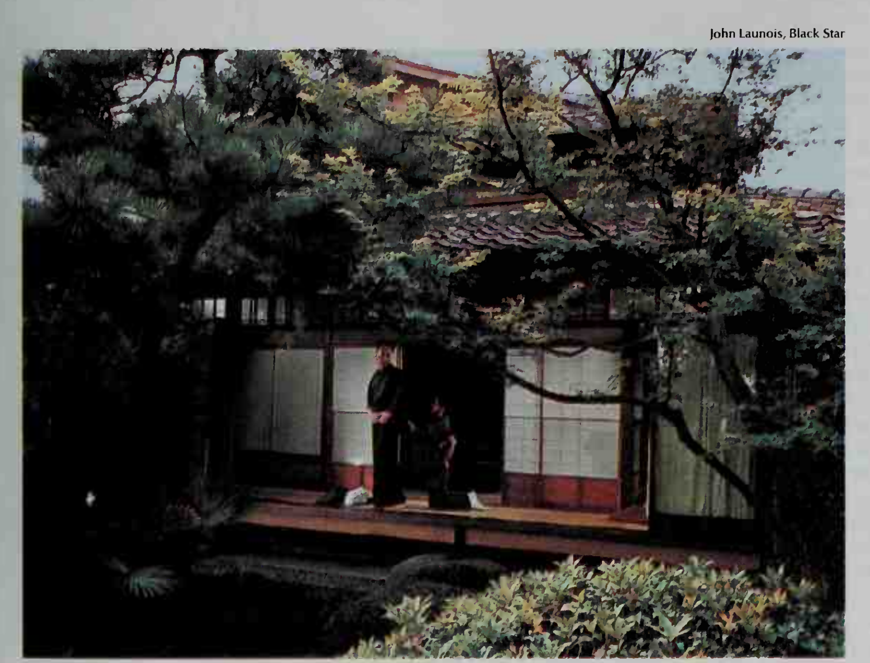
Food and drink. Many Japanese families eat at restaurants on weeknights and weekends as well as on special occasions. Favorite dining spots include Japan's new casual family restaurants. Roads and superhighways are lined with such American establishments as Denny's and McDonald's and similar Japanese-owned chains called Skylark and Lotteria.

When dining at home, most older people eat traditional Japanese foods. They drink tea and eat rice at almost every meal. They supplement the rice with fish, *tofu* (soybean curd cake), pickled vegetables, soups made with *miso* (soybean paste), and on occasion, eggs or meat.

Younger people eat fewer of the traditional foods. Like their elders, they eat fish, but they also like to eat beef, chicken, and pork. They eat more fruit, including imported kiwi and grapefruit as well as the apples, oranges, pears, and strawberries grown in Japan. They also consume larger amounts of eggs, cheese, and milk than their parents. Instead of rice, many prefer bread, doughnuts, and toast. In fact, by 1990, total rice consumption in Japan had dropped to about half its level in 1960.

Overall, younger people now take in significantly more protein and fat then their grandparents did. The

John Launois, Black Star



A traditional Japanese house blends with the natural beauty surrounding it. Many such houses in Japan feature lovely gardens, graceful tile roofs, and sliding paper screens between rooms.



Paul Chesley, Tony Stone Images



Paul Chesley, Tony Stone Images

Japanese meals reflect the culture of both the East and the West. Many people enjoy dining at home in traditional Japanese style, *above,* and many enjoy eating out. Casual family restaurants are favorite dining places, and fast-food establishments, *left,* are also popular throughout Japan.

nutritional change has helped make the members of the younger generation an average of 3 to 4 inches (8 to 10 centimeters) taller than their grandparents.

Recreation. Japanese people are energetic sports enthusiasts. Schools encourage children to enjoy sports, and adults spend large sums on athletic equipment and membership fees. Baseball, bowling, golf, gymnastics, and tennis attract large numbers of participants, and many Japanese are good swimmers and runners. Another popular sport is *kendo,* a Japanese form of fencing in which bamboo or wooden sticks are used for swords. Many Japanese also practice *aikido, judo,* and *karate,* traditional martial arts that involve fighting without weapons. Spectator events, such as baseball, horse racing, soccer, and the Japanese form of wrestling called *sumo,* are also popular.

Hobbies are another important leisure time activity for Japanese men and women. Popular hobbies include performing the tea-serving ceremony, chanting medieval ballads, or *ikebana* (flower arranging). Many Japanese study with masters of these arts to improve their skills.

Travel is a favorite leisure pursuit. Every year, millions of Japanese visit foreign countries. Within Japan, popular travel destinations include temples or shrines, hot springs, and famous historical sites.

Other leisure pursuits common in Japan include watching television, playing video games, and listening to recorded music. The Japanese also like to read books and magazines. Many workers read during the hours spent commuting by train between homes in the suburbs and jobs in the city.

Men in Japan often spend their free time after work socializing in small groups. They stop off at little shops, restaurants, and bars to have a snack together and a drink of *sake* (Japanese-style rice wine) or beer.

The Japanese celebrate many festivals during the year. One of the most popular celebrations in Japan is the New Year's Festival, which begins on January 1 and ends on January 3. During the festival, the Japanese dress up, visit their friends and relatives, enjoy feasts, and exchange gifts.

Religion. Many Japanese people say they are not devout worshipers and do not have strong religious beliefs. However, nearly everyone in Japanese society engages in some religious practices or rituals. Those practices are based on the two major religious traditions in Japan, Shinto and Buddhism.

Shinto means *the way of the gods.* It is the native religion of Japan and dates from prehistoric times. Shintoists worship many gods, called *kami,* that are found in mountains, rivers, rocks, trees, and other parts of nature. Shinto also involves ancestor worship.

In 1868, the Japanese government established an official religion called State Shinto. State Shinto stressed patriotism and the worship of the emperor as a divine being. The government abolished State Shinto after World War II, and the emperor declared he was not divine.

Today, fewer than 3 percent of Japanese practice strict traditional Shinto. But almost all Japanese perform some Shinto rituals. Many people visit Shinto shrines to make offerings of fruit, rice, prayers, and other gifts to the gods. In return, they may ask the gods for favors, such as the safe birth of a child, success on examinations, or good health. Japanese people typically invite Shinto priests to preside at weddings and to offer blessings for the New Year or for the construction of new buildings.

Buddhism came to Japan from India via China in the 500's. Buddhism has a more elaborate set of beliefs than Shinto, and it offers a more complicated view of humanity, the gods, and life and death. Generally, Buddhists believe that a person can obtain perfect peace and happiness by leading a life of virtue and wisdom. Buddhism stresses the unimportance of worldly things. Many Japanese turn to Buddhist priests to preside at funerals and other occasions when they commemorate the dead.

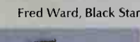
A variety of religious groups called New Religions developed in Japan during the 1800's and 1900's. Many of these religions combine elements of Buddhism, Shinto, and in some cases, Christianity. In addition, a small percentage of the Japanese population is Christian.

Gender roles. Japanese society imposes strong expectations on women and men. The society expects women to marry in their mid-20's, become mothers soon afterward, and stay at home to attend to the needs of their husband and children. Women often have a dominant role in raising children and handling the family finances. Men are expected to support their families as sole breadwinners. To make this possible, Japanese employers provide male workers with family allowances.

Most Japanese men accept this idea of their place in society, and many women do, too. But in practice, the majority of Japanese women do hold jobs at one time or another. Most women work before they marry, and many of them return to the labor force after their children are in school or grown. In addition, some Japanese women work while their children are young.

Altogether, about 50 percent of all Japanese women over age 15 are in the labor force at any one time. But because of the society's expectations about gender roles, female employees earn lower incomes and receive fewer benefits than male employees do, and have almost no job security.

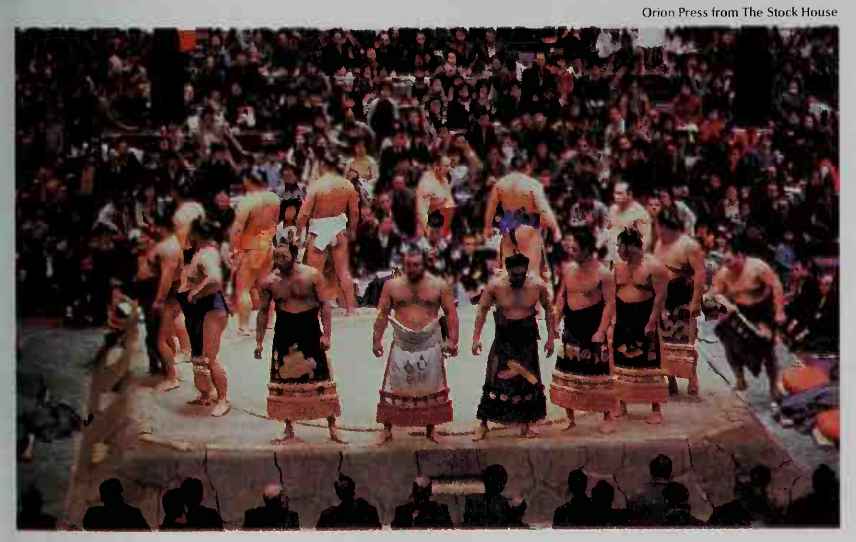
The traditional ideas about gender roles have begun to change in Japan, most quickly among younger women. Many women in their early 20's are reluctant to give up their jobs and income. As a sign of that change, an increasing number of Japanese women are postponing marriage until they are in their late 20's or early 30's.





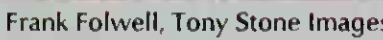
A driving range with three levels enables large crowds of Japanese golfers to practice their swing. Golf is a popular sport in Japan, and the country has many golf courses.

Orion Press from The Stock House

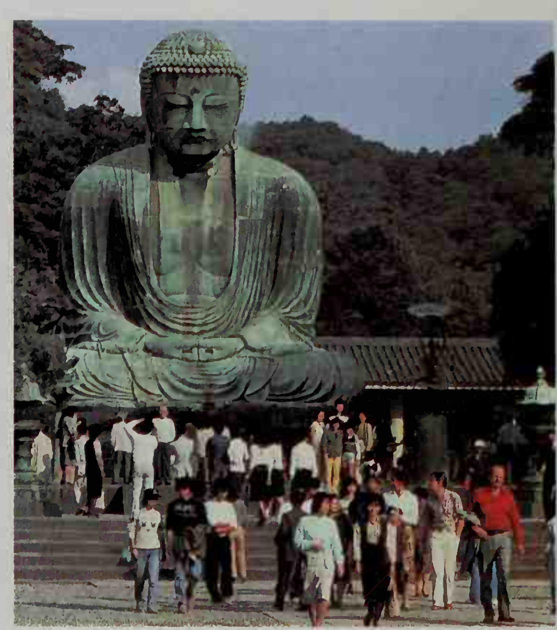


Sumo wrestlers parade around the ring before an exhibition of this Japanese style of wrestling. Sumo tournaments attract large, enthusiastic crowds. Many matches are televised.





Frank Folwell, Tony Stone Images



Milt and Joan Mann

Shinto and Buddhism are the two major religious traditions in Japan. The procession shown on the left above is part of a Shinto festival. Many Japanese Buddhists visit the *Daibutsu* (Great Buddha), a huge bronze statue of Buddhism's founder in Kamakura, *above right.*

Education. Japanese society places an extremely high value on educational achievement, particularly for males. The Japanese measure educational achievement chiefly by the reputation of the university a student attends. The student's grades or field of study are less important as signs of success. Under most circumstances, any student who graduates from a top-ranked university has a big advantage over other college graduates in seeking employment. Families work hard to get their children into a good university, starting as soon as the youngsters begin school.

After six years at an elementary school, almost all Japanese children continue for another three years at a junior high school. Education at public schools is free during these nine years for children 6 to 14 years of age.

Japanese elementary and junior high school students study such subjects as art, homemaking, the Japanese language, mathematics, moral education, music, physical education, science, and social studies. In addition, many junior high school students study English or another foreign language. Students spend much time learning to read and write Japanese because the language is quite difficult. The country has an exceptionally high literacy rate, however. Almost all adults can read and write.

Public school students attend classes Monday through Friday and half a day on Saturday, except for two weeks each month when they have Saturdays off. The Japanese school year runs from April through March of the next year. Vacation is from late July through August.

During the last two years of junior high school, many students focus on attaining admission to a high school with a good record of getting its graduates into top universities. Many of the most successful high schools are expensive private institutions that require incoming students to pass a difficult entrance examination. To prepare for the test, many eighth- and ninth-grade students spend several hours each day after school taking exam-preparation classes at private academies called *juku.*

Students attend senior high school for three years. Classes include many of the same subjects studied in junior high school, along with courses to prepare students for college or train them for jobs. While in high school, a student may continue to study at a juku as preparation for the entrance exam to a university.



Charles Gupton, Tony Stone Images

Students work on a lesson with their teacher. Education is valued highly in Japan. As soon as they enter school, students begin to focus on getting into a well-regarded university.

Japan has more than 500 universities and about 600 technical and junior colleges. The most admired institutions are the oldest national universities, the University of Tokyo and the University of Kyoto. Two private universities, Keio University and Waseda University in Tokyo, are also highly regarded.

After students are admitted to one of these four universities, they tend to pay more attention to extracurricular activities than to their classwork. Simply being at a top university will ensure job interviews at the country's best firms.

Because Japanese society does not expect a woman to be the family's main wage earner, the educational experience for girls is more limited. About half of the women who get college educations attend technical or junior colleges rather than universities. In contrast, nearly all men who get a college degree attend universities. At the graduate level, male students outnumber females 2 to 1.

Japanese students consistently score well on international tests of science and mathematics skills. But many Japanese are concerned about the disadvantages of their educational system. Parents feel that it places too much emphasis on memorization and taking exams. Most would prefer to have their children educated in a more creative environment that requires less time in classrooms. Many Japanese politicians and business people agree that their educational system has flaws.

The arts

For hundreds of years, Chinese arts had a great influence on Japanese arts. A Western influence began about 1870. However, there has always been a distinctive Japanese quality about the country's art.

Music. Most forms of Japanese music feature one instrument or voice or a group of instruments that follow the same melodic line instead of blending in harmony. Japanese instruments include the lutelike *biwa*; the zitherlike *koto*; and the three-stringed banjolike *samisen*, or *shamisen*. Traditional music also features drums, flutes, and gongs. Performances of traditional music draw large crowds in Japan. Most types of Western music are also popular. Many Japanese cities have their own professional symphony orchestras that specialize in Western music.

Theater. The oldest form of traditional Japanese drama is the *no* play, which developed during the 1300's. *No* plays are serious treatments of history and legend. Masked actors perform the story with carefully controlled gestures and movements. A chorus chants most of the important lines in the play.

Two other forms of traditional Japanese drama—*bunraku* (puppet theater) and the *kabuki* play—developed during the late 1600's. In puppet theater, a narrator recites the story, which is acted out by large, lifelike puppets. The puppet handlers work silently on the stage in view of the audience. *Kabuki* plays are melodramatic representations of historical or domestic events. *Kabuki* features colorful costumes and makeup, spectacular scenery, and a lively and exaggerated acting style.

The traditional types of theater remain popular in Japan. But the people also enjoy new dramas by Japanese playwrights, as well as Western plays.

Literature. Japan has a rich literary heritage. Much of the country's literature deals with the fleeting quality of human life and the never-ending flow of time. Murasaki Shikibu, a lady-in-waiting to the empress, wrote *The Tale of Genji* during the early 1000's. This long novel is generally considered the greatest work of Japanese fiction and possibly the world's first novel.

Sculpture. Some of the earliest Japanese sculptures were *haniwa*, small clay figures made from the A.D. 200's to 500's. Haniwa were placed in the burial mounds of important Japanese people. The figures represented animals, servants, warriors, weapons, and objects of everyday use.

Japanese sculptors created some of their finest works for Buddhist temples. The sculptors worked chiefly with wood, but they also used clay and bronze. The most famous bronze statue in Japan, the Great Buddha at Kamakura, was cast during the 1200's.



Paolo Koch, Photo Researchers



Kabuki, a traditional form of Japanese drama, features chanting, music, colorful costumes and makeup, and a lively and exaggerated acting style. Kabuki plays are melodramatic portrayals of historical or domestic events. The Japanese developed kabuki theater during the 1600's.



Wood-block print by an unknown Japanese artist (1800's); Art Resource

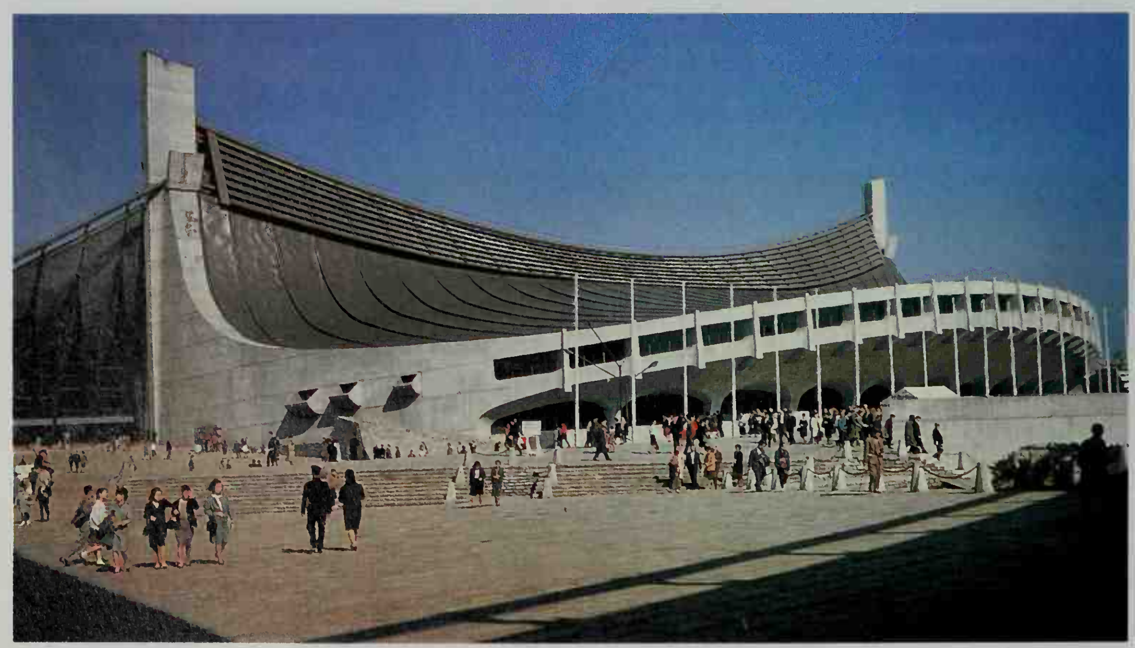
Landscape prints, such as the wood-block print above, flourished in Japan in the 1800's. Printmaking is still popular in Japan.

Painting. Early Japanese painting dealt with Buddhist subjects, using compositions and techniques from China. From the late 1100's to the early 1300's, many Japanese artists painted long picture scrolls. These scrolls realistically portrayed historical tales, legends, and other stories in a series of pictures. Ink painting flourished in Japan from the early 1300's to the mid-1500's. Many of these paintings featured black brushstrokes on a white background.

During the mid-1500's and early 1600's, a decorative style of painting developed in Japan. Artists used bright colors and elaborate designs and added gold leaf to their paintings. From the 1600's to the late 1800's, artists created colorful wood-block prints. Printmaking is still popular in Japan.

Architecture. Many architectural monuments in Japan are Buddhist temples. These temples have large tile roofs with extending edges that curve gracefully upward. Traditional Shinto shrines are wooden frame structures noted for their graceful lines and sense of proportion. The simple style of Shinto architecture has influenced the design of many modern buildings in Japan. Japanese architecture emphasizes harmony between buildings and the natural beauty around them. Landscape gardening is a highly developed art in Japan.

Other arts. Japan ranks among the world's leading producers of motion pictures. Many Japanese films have earned international praise. The Japanese have long been famous for their ceramics, ivory carving, lacquerware, and silk weaving and embroidery. Other traditional arts include flower arranging, *cloisonné* (a type of decorative enameling), and *origami* (the art of folding paper into decorative objects).



Robert Glaze, Artstreet

The National Stadium of Tokyo shows the influence of traditional Japanese architecture in the gracefully curving lines of the structure's roof. The stadium, designed by the Japanese architect Kenzo Tange, was constructed in 1964 for the Summer Olympic Games held in Tokyo that year.



Paul D. Thrash

Mount Fuji, framed by cherry blossoms, symbolizes the great natural beauty of Japan. Fuji is Japan's highest and most famous peak, and many Japanese people climb it each year. Fuji is part of a chain of volcanoes on the island of Honshu, the largest of Japan's four main islands.

The land

Japan is a land of great natural beauty. Mountains and hills cover about 70 percent of the country. In fact, the Japanese islands consist of the rugged upper part of a great mountain range that rises from the floor of the North Pacific Ocean. Jagged peaks, rocky gorges, and thundering mountain waterfalls provide some of the country's most spectacular scenery. Thick forests thrive on the mountainsides, adding to the scenic beauty of the Japanese islands.

Japan lies on an very unstable part of the earth's crust. As a result, the land is constantly shifting. This shifting causes two of Japan's most striking natural features—earthquakes and volcanoes. The Japanese islands have about 1,500 earthquakes a year. Most are minor tremors that cause little damage, but severe earthquakes occur every few years. Undersea quakes sometimes cause huge, destructive waves, called *tsunamis,* along Japan's Pacific coast. The Japanese islands have more than 150 major volcanoes. Over 60 of these volcanoes are active.

Numerous short, swift rivers cross Japan's rugged surface. Most of the rivers are too shallow and steep to be navigated. But their waters are used to irrigate farmland, and their rapids and falls supply power for hydroelectric plants. Many lakes nestle among the Japanese mountains. Some of them lie in the craters of extinct volcanoes. A large number of hot springs gush from the ground throughout the country.

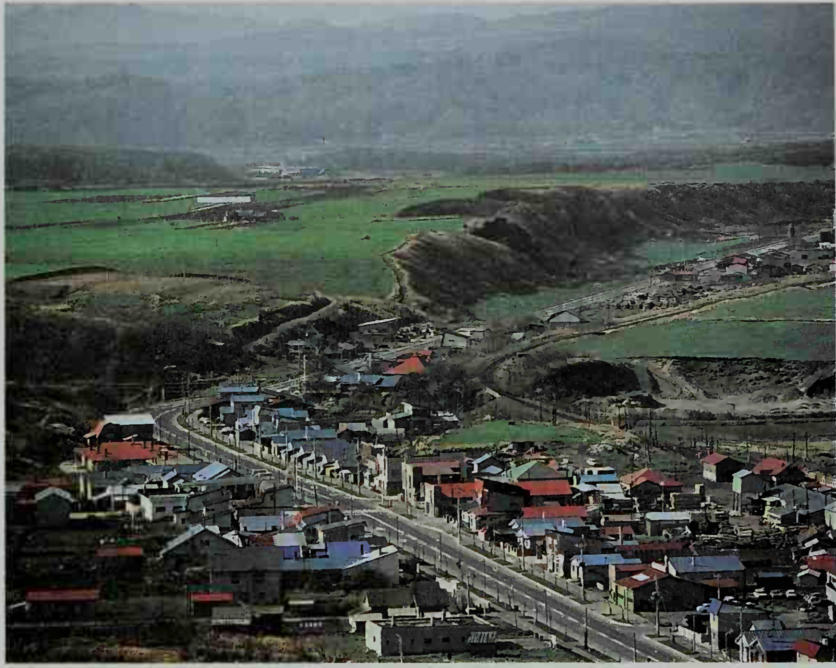
The Japanese islands have a total land area of about 145,834 square miles (377,708 square kilometers). The four main islands, in order of size, are Honshu, Hokkaido, Kyushu, and Shikoku. Thousands of smaller islands and islets lie near these major islands. Japan's territory also includes the Ryukyu and Bonin island chains.

Japan's four chief islands have 4,628 miles (7,448 kilometers) of coastline. The Pacific Ocean lies to the east and south of Japan. The Sea of Japan washes the country's west coast. It is sometimes called the East Sea because it lies east of Russia and the Korean peninsula.

Honshu, Japan's largest island, has an area of 89,000 square miles (230,510 square kilometers). About 80 percent of the Japanese people live on Honshu.

Three mountain ranges run parallel through northern Honshu. Most of the people in this area live in small mountain valleys. Agriculture is the chief occupation. East of the ranges, along the Pacific, lies the Sendai Plain. West of the mountains, the Echigo Plain extends to the Sea of Japan.

The towering peaks of the Japanese Alps, the country's highest mountains, rise in central Honshu. Southeast of the Japanese Alps lies a chain of volcanoes. Japan's tallest and most famous peak, Mount Fuji, or Fujiyama, is one of these volcanoes. Mount Fuji, which is inactive, rises 12,388 feet (3,776 meters) above sea level. The Kanto Plain, the country's largest lowland, spreads


Mike Yamashita

Hokkaido extends the farthest north of any of Japan's main islands. It is mostly covered with forested mountains and hills. Hokkaido's chief agricultural region, dotted with small rural communities like the one at the left, lies in the southwestern part of the island.

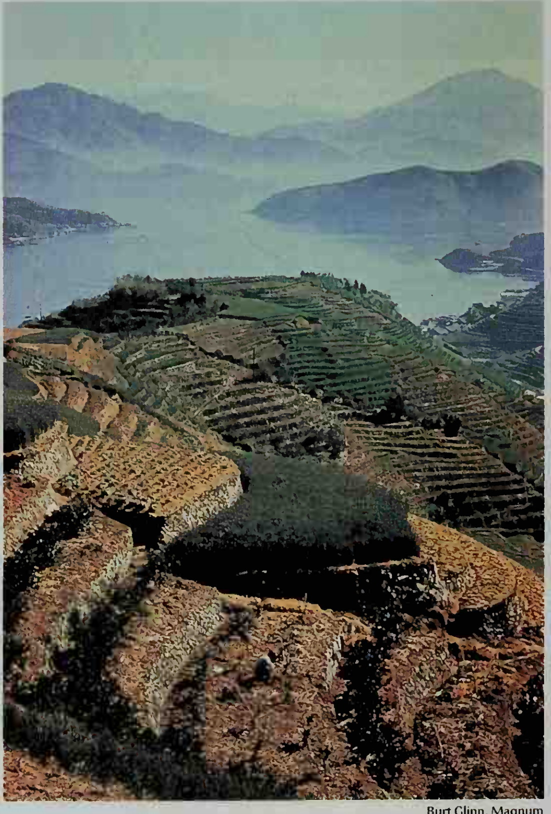
east from the Japanese Alps to the Pacific. This lowland is an important center of agriculture and industry. Tokyo sprawls over the southern part of the Kanto Plain. Two other major agricultural and industrial lowlands—the Nobi Plain and Osaka Plain—lie south and west of the Kanto region.

Most of southwestern Honshu consists of rugged, mountainous land. Farming and fishing villages and some industrial cities lie on small lowlands scattered throughout this region.

Hokkaido, the northernmost of Japan's four major islands, covers 30,144 square miles (78,073 square kilometers). It is the country's second largest island but has only about 5 percent of Japan's total population. Much of the island consists of forested mountains and hills. A hilly, curved peninsula extends from southwestern Hokkaido. Northeast of this peninsula is the Ishikari Plain, Hokkaido's largest lowland and chief agricultural region. Smaller plains border the island's east coast. The economy of Hokkaido depends mainly on dairy farming, fishing, and forestry. The island is also a popular recreational area. Long winters and heavy snowfall make Hokkaido ideal for winter sports.

Kyushu, the southernmost of the main islands, occupies 14,114 square miles (36,554 square kilometers). After Honshu, Kyushu is Japan's most heavily populated island, with about 11 percent of the population. A chain of steep-walled, heavily forested mountains runs down the center of the island. Northwestern Kyushu consists of rolling hills and wide plains. Many cities are found in this heavily industrialized area. Kyushu's largest plain and chief farming district is located along the west coast.

The northeastern and southern sections of Kyushu have many volcanoes, high lava plateaus, and large deposits of volcanic ash. In both regions, only small patches


Burt Glinn, Magnum

Kyushu is the southernmost of Japan's main islands. Rugged terrain covers much of the island. Farmers grow some crops on level strips of land cut out from the sides of lava plateaus.



WORLD BOOK map

Physical features

Abukuma Mountains	D	6
Agano River	D	5
Amakusa Islands	F	1
Asahi Mountain	A	6
Awaji Island	F	3
Biwa Lake	E	4
Boso Peninsula	E	5
Bungo Channel	F	2
Chugoku Mountains	E	3
Echigo Plain	D	5
Enshu Bight	F	4
Erimo Cape	B	6
Esan Point	B	6
Goto Islands	F	1
Hidaka Mountains	B	6
Hokkaido (island)	A	6
Honshu (island)	E	4
Inawashiro Lake	D	5
Inland Sea	F	2
Ise Bay	E	4
Ishikari Plain	B	6
Izu Islands	F	5
Izu Peninsula	E	5
Japanese Alps	E	4
Kagoshima Bay	G	1
Kammon Strait	F	1
Kanto Mountains	E	5
Kanto Plain	E	5
Kasumiga Lake	E	6
Kii Channel	F	3
Kii Mountains	F	4
Kii Peninsula	F	4
Kitakami Mountains	C	6
Kitami Mountains	A	6
Korea Strait	E	1
Kushiro Plain	A	7
Kyushu (island)	G	2
Kyushu Mountains	G	1
Mikuni Mountains	D	5
Mount Fuji	E	5
Mutsu Bay	C	6
Nemuro Peninsula	B	7
Nobi Plain	E	4
Noto Peninsula	D	4
Oga Peninsula	C	5
Ojika Peninsula	D	6
Oki Islands	E	3
Okushiri Island	B	5
Osaka Plain	E	4
O-shima (island)	E	5
Oshima Peninsula	B	5
Osumi Islands	G	1
Osumi Peninsula	G	2
Ou Mountains	D	6
Sado (island)	D	5
Sagami Bay	E	5
Satsuma Peninsula	G	1
Sea of Japan (East Sea)	C	3
Sendai Bay	D	6
Sendai Plain	D	6
Shikoku (island)	F	3
Shikoku Mountains	F	3
Shimane Peninsula	E	2
Shimokita Peninsula	C	6
Shiono Cape	F	4
Soya Point	A	6
Suo Sea	F	2
Suruga Bay	E	5
Tanega Island	G	1
Teshio Mountains	A	6
Tokachi Plain	B	6
Tokyo Bay	E	5
Tone River	E	5
Toyama Bay	D	4
Tsugaru Peninsula	C	5
Tsugaru Strait	B	5
Tsushima (islands)	E	1
Uchiura Bay	B	5
Wakasa Bay	E	4
Yaku Island	G	1

of land along the coasts and inland can be farmed. Farmers grow some crops on level strips of land cut out from the steep sides of the lava plateaus.

Shikoku, the smallest of the main Japanese islands, covers 7,049 square miles (18,256 square kilometers). About 3 percent of the Japanese people live on the island. Shikoku has no large lowlands. Mountains cross the island from east to west. Most of the people live in northern Shikoku, where the land slopes downward to the Inland Sea. Hundreds of hilly, wooded islands dot this beautiful body of water. Farmers grow rice and a variety of fruits on the fertile land along the Inland Sea. Copper mining is also important in this area. A narrow plain borders Shikoku's south coast. There, farmers grow rice and many kinds of vegetables.

The Ryukyu and Bonin islands belonged to Japan until after World War II, when the United States took control of them. The United States returned the northern Ryukyus to Japan in 1953 and the Bonins in 1968. In 1972, it returned the rest of the Ryukyu Islands, including Okinawa, the largest and most important island of the group.

More than 100 islands make up the Ryukyus. They extend from Kyushu to Taiwan and have about $1\frac{1}{4}$ million people. The Ryukyu Islands consist of the peaks of a submerged mountain range. Some of the islands have active volcanoes. The Bonins lie about 600 miles (970 kilometers) southeast of Japan and consist of 97 volcanic islands. About 1,900 people live on the islands.

Climate

Climates in Japan vary dramatically from island to island. Honshu generally has warm, humid summers. Winters are mild in the south and cold and snowy in the north. Honshu has balmy, sunny autumns and springs. Hokkaido has cool summers and cold winters. Kyushu and Shikoku have long, hot summers and mild winters.

Two Pacific Ocean currents—the Kuroshio and the Oyashio—influence Japan's climate. The warm, dark-blue Kuroshio flows northward along the south coast and along the east coast as far north as Tokyo. The Kuroshio has a warming effect on the climate of these regions. The cold Oyashio flows southward along the east coasts of Hokkaido and northern Honshu, cooling these areas.

Seasonal winds called *monsoons* also affect Japan's climate. In winter, monsoons from the northwest bring cold air to northern Japan. These winds, which gather moisture as they cross the Sea of Japan, deposit heavy snows on the country's northwest coast. During the summer, monsoons blow from the southeast, carrying warm, moist air from the Pacific Ocean. Summer monsoons cause hot, humid weather in the central and southern parts of Japan.

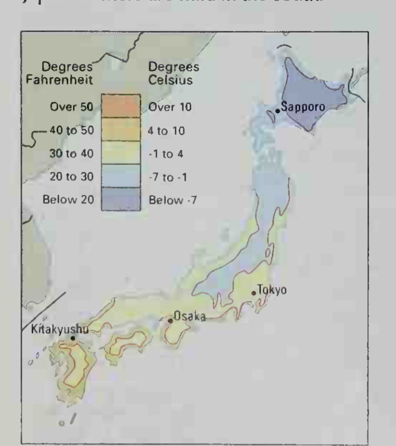
Rain is abundant throughout most of Japan. All areas of the country—except eastern Hokkaido—receive at least 40 inches (100 centimeters) of rain yearly. Japan has two major rainy seasons—from mid-June to early July and in September and October. Several typhoons strike the country each year, chiefly in late summer and early

Average monthly weather

	Tokyo						Sapporo					
	Temperatures F°		Temperatures C°		Days of rain or snow		Temperatures F°		Temperatures C°		Days of rain or snow
	High	Low	High	Low			High	Low	High	Low	
Jan.	46	30	8	-1	8	Jan.	28	12	-2	-11	26
Feb.	48	30	9	-1	8	Feb.	30	12	-1	-11	23
Mar.	54	36	12	2	13	Mar.	36	19	2	-7	23
Apr.	63	46	17	8	14	Apr.	52	32	11	0	13
May	70	54	21	12	14	May	61	41	16	5	14
June	75	63	24	17	16	June	68	50	20	10	13
July	82	70	28	21	14	July	75	59	24	15	13
Aug.	86	72	30	22	13	Aug.	79	61	26	16	13
Sept.	79	66	26	19	17	Sept.	72	52	22	11	17
Oct.	68	54	20	12	14	Oct.	61	39	16	4	17
Nov.	61	43	16	6	10	Nov.	46	28	8	-2	19
Dec.	52	34	11	1	7	Dec.	34	18	1	-8	25

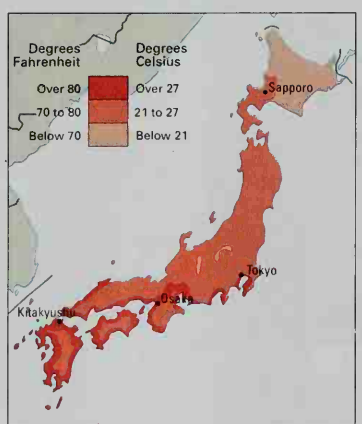
Average January temperatures

In winter, winds from the mainland of Asia bring cold weather to northern Japan. Winters are mild in the south.



Average August temperatures

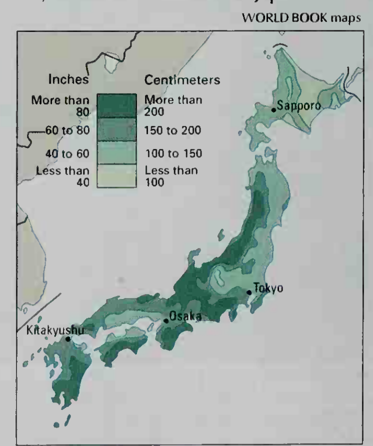
In summer, most of Japan has hot, humid weather. Ocean currents flowing near the islands bring warm, moist air.



Average yearly precipitation

Japan has abundant rainfall. Winds called *monsoons* bring rain in summer. In winter, snow falls over much of Japan.

WORLD BOOK maps



fall. The heavy rains and violent winds of these storms often do great damage to houses and crops.

Economy

The size of Japan's economy ranks second only to that of the United States in terms of its *gross domestic product* (GDP). The GDP is the total value of all goods and services produced within a country yearly. Japan is one of the world's leading countries in the value of its exports and imports. On average, Japanese families enjoy one of the highest income levels in the world, and their assets and savings are among the world's largest.

Key elements of Japan's economy are manufacturing and trade. The country has few natural resources, so it must buy such necessities as aluminum, coal, lead, and petroleum. To pay for those imports, the government has adopted a strategy of exporting manufactured goods of high value.

Manufacturing. Japan's manufactured products range from tiny computer components to giant oceangoing ships. The most important manufactured products are cars and trucks, electronic products, and communications and data processing equipment. Other products include cement, ceramics, clothing, fabricated metal products, food products, plastics, textiles, steel, tires, and watches and other precision instruments.

Japan's manufacturing *sector* (portion of the economy) plays a major role in the Japanese economy. Manufacturing industries have consistently employed more than 20 percent of the Japanese labor force and generated approximately 25 percent of the country's gross domestic product.

An especially important part of Japan's manufacturing sector is known as the *large-firm sector.* It includes such well-known companies as NEC Corporation, Nissan Motor Company, Sony Corporation, Toshiba Corporation, and Toyota Motor Corporation. Most of the large manufacturing firms assemble parts and components into a finished product such as a car, computer, or television set. The large firms then sell the product at a significantly higher price than the cost of the components.

Another part of the manufacturing sector consists of tens of thousands of small factories. Most of these companies make the parts or components that large firms assemble into finished products.

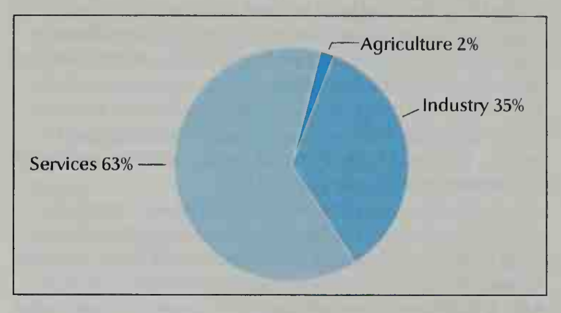
A core group of Japanese managers and skilled workers in the large-firm sector have secure jobs, earn high wages, and enjoy generous benefits. But some workers in the large-firm sector and many in the small factories have less job security, lower wages, and fewer benefits.

Manufacturing in Japan is concentrated in five main regions. For the location of each region and a listing of its main products, see the map titled *Economy of Japan* in this section of the article.

Construction. The construction sector consists of several giant national firms, hundreds of medium-sized regional firms, and thousands of small local firms. The sector employs about 10 percent of Japan's labor force and generates about 10 percent of the GDP.

The industry grew dramatically after World War II, when construction firms were needed to rebuild Japan's ruined cities and demolished factories. Later, the nation's growing economy brought a constant demand for new shops, offices, factories, roads, harbors, airports,

Japan's gross domestic product



Japan's gross domestic product (GDP) was $3,966,096,000,000 in 1998. The GDP is the total value of goods and services produced within a country in a year. *Services* include community, social, and personal services; finance, insurance, and real estate; government; transportation and communication; and trade. *Industry* includes construction, manufacturing, mining, and utilities. *Agriculture* includes agriculture, forestry, and fishing.

Production and workers by economic activities

Economic activities	Percent of GDP produced	Employed workers: Number of people	Employed workers: Percent of total
Manufacturing & mining	23	13,880,000	21
Community, social, & personal services	20	16,020,000	25
Finance, insurance, & real estate	18	5,930,000	9
Wholesale & retail trade	11	14,830,000	23
Construction	9	6,620,000	10
Government	8	*	*
Transportation & communication	6	4,050,000	6
Utilities	3	370,000	1
Agriculture, forestry, & fishing	2	3,430,000	5
Total	100	65,130,000	100

*Included in Community, social, and personal services.
Figures are for 1998.
Sources: Japan Statistics Bureau; International Monetary Fund.

houses, apartments, and condominiums. In the 1990's, most of the largest firms began to expand internationally. Today, Japanese construction firms build such large projects as hotels and office buildings throughout the world. They handle many projects in other parts of Asia, the United Kingdom, and the United States.

Mining. Japan has a wide variety of minerals, but supplies of most are too small to satisfy the nation's needs. The chief mining products are coal, copper, lead, limestone, manganese, silver, tin, and zinc.

Agriculture. Throughout much of Japan's history, agriculture was the mainstay of the Japanese economy. As late as 1950, the agricultural sector employed 45 percent of the labor force. But as Japan's industries grew, the economic importance of agriculture declined. By the end of the 1900's, farmworkers made up less than 6 percent of the labor force, and they produced less than 2 percent of the GDP.

Because Japan is mountainous, only about 15 percent of the land can be cultivated. To make their farmland as productive as possible, Japanese farmers use irrigation, improved seed varieties, fertilizers, and modern machin-

ery. Farmers grow some crops on *terraced fields*—that is, on level strips of land cut out of hillsides.

Japan's farmers are able to produce almost all the eggs, potatoes, rice, and fresh vegetables eaten in Japan. They also produce 50 to 80 percent of the dairy products, fruit, and meat. However, they raise only a tiny share of the animal feed, beans, and wheat that Japan needs. The nation must import the agricultural products that its farmers cannot supply.

For decades, government policies have kept crop prices high, especially for rice. Those policies help ensure that Japan has an adequate supply of food, and they protect rural communities from the sudden loss of income. But most Japanese consumers want to reduce the government subsidies so that food becomes less expensive. Other nations want Japan to stop protecting its agricultural sector, so that foreigners can sell rice and other farm products to the Japanese.

Fishing industry. Japan is one of the most important fishing nations in the world. Japanese fishing crews catch large amounts of bonito, carp, eel, mackerel, pollock, sardines, trout, and tuna. Other products of Japan's fishing industry include crabs and other shellfish and squid. Workers also harvest oysters and edible seaweed from "farms" in coastal waters.

The fishing industry began to decline in the 1950's. Pollution and international restrictions on ocean catches have reduced the quantity and value of the Japanese catch. Today, few young people enter the industry.

Service industries. Taken altogether, service industries generate over 60 percent of Japan's GDP and employ more than 60 percent of the labor force. Japan's leading service industries include community, social, and personal services; finance, insurance, and real estate; and wholesale and retail trade. Other service industries that contribute to Japan's economy include government, and transportation and communication.

Many of the workers in the service industries are highly educated and well-paid. They hold such positions as bankers, financial analysts, civil servants, engineers, teachers, accountants, doctors, and lawyers. Most of these workers are men, and they—as well as managers in the manufacturing industry—are known as *sarariman* (salarymen). In general, salarymen receive generous incomes and benefits, and they enjoy good job security until they retire in their late 50's or early 60's.

However, a number of other workers in the service industries earn lower salaries and have fewer benefits and little job security. They work in such businesses as department stores, movie theaters, restaurants, and the small retail establishments often called "Mom-and-Pop shops." Such shops sell food, clothing, household necessities, and a variety of other goods. The little shops are far more numerous in Japan than in the United States or Western Europe. But they are disappearing as giant discount stores force them out of business.

Energy sources. Japan requires large amounts of energy to power its factories, households, offices, and motor vehicles. But the nation must import most of the fuel required to produce that energy. Japan has virtually no natural supplies of petroleum. Hokkaido and Kyushu contain fairly large deposits of coal, but its quality is poor, and the deposits are difficult to mine.

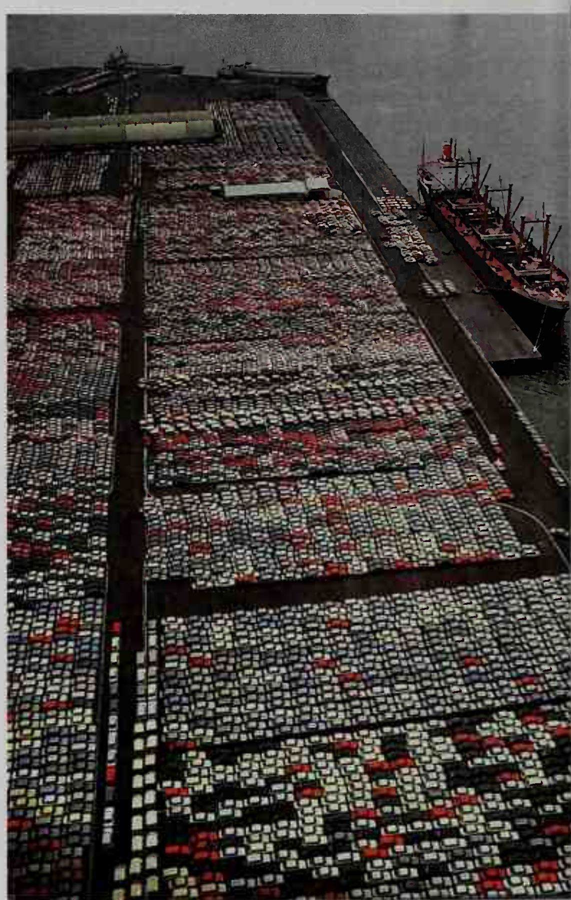
Nevertheless, Japan ranks among the world's leading consumers of electric power. Power plants that burn coal, natural gas, or petroleum produce about 65 percent of Japan's electric power. Nuclear power plants supply about 25 percent of the country's electric power, and hydroelectric plants about 10 percent.

Japan had hoped to build many more nuclear power plants to decrease its reliance on imported fuels. But a 1995 accident at an experimental nuclear reactor raised questions about the future of the expansion program.

International trade. In many ways, the driving force of Japan's economy is international trade. By trading with other nations, Japan obtains the raw materials it does not have and finds buyers for the expensive, high-quality manufactured goods its workers produce.

Japan's largest single import is crude oil. Other major imports include chemicals, fish and shellfish, and metal ores. Japan buys many of its imports from Asian nations with small populations and few consumers. Some of Japan's trading partners are relatively poor. As a consequence, Japan is seldom able to sell to its trade partners enough manufactured goods to maintain an equal balance of imports and exports.

To find buyers for Japan's expensive products, the na-



Orion Press

Thousands of Japanese cars on a huge wharf near Nagoya await shipment to other countries. Automobiles are among Japan's most important manufactured products.

tion looks to wealthy countries in North America and Western Europe. Since the end of World War II, the United States has bought the largest share of Japan's exports. In the 1950's, the United States purchased inexpensive Japanese textile products. Later, it began to buy more costly goods, such as automobiles and communications and computer equipment.

The United States sells Japan many American goods in return, including expensive items, such as computers and medicines. However, Japanese trade barriers place restrictions on many imports. By the 1980's, the United States was buying far more from Japan that it was selling to it. The inequality led to a large trade imbalance between the two nations. In the early 1990's, a similar imbalance arose between Japan and nations in North and East Asia and Western Europe.

Japan's trade surpluses enabled it to accumulate huge reserves of foreign currency, in an amount that was second only to the foreign reserves of the United States. Japan used some of its reserves to invest in factories, banks, businesses, and real estate in the United States and many other countries.

Just as Japan was reaping these successes, Canada, the United States, and Western Europe were suffering economic slowdowns. People in other nations began to envy and resent Japan for its trade surpluses, large reserves of foreign currencies, and heavy investment in other countries. Under pressure, Japan began to lift some of its trade barriers.

Transportation. Japan has a modern transportation system, including airports, highways, railroads, and coastal shipping. All the major cities have extensive local transit networks that include buses, trains, and subways. Japan also has the world's longest suspension bridge, the Akashi Kaikyo Bridge. The bridge has a main span of 6,529 feet (1,990 meters). It connects Kobe and Awaji Island and thus provides a link between the island of Honshu and the island of Shikoku.

An eight-company business unit known as Japan Railways Group operates about 75 percent of Japanese railroads. Trains traveling between Honshu and Hokkaido go through an undersea tunnel called the Seikan Tunnel. At 33.5 miles (53.9 kilometers) long, it is the world's longest transportation tunnel.

Japan's commercial fleet is one of the world's largest. Japan's chief ports are Chiba, Kobe, Nagoya, and Yoko-

Economy of Japan

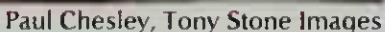
Manufacturing is the single most important economic activity in Japan. This map shows the nation's five major industrial regions and lists the chief products of each region. Japan's croplands, forest lands, mineral deposits, and fishing products are also indicated on the map.



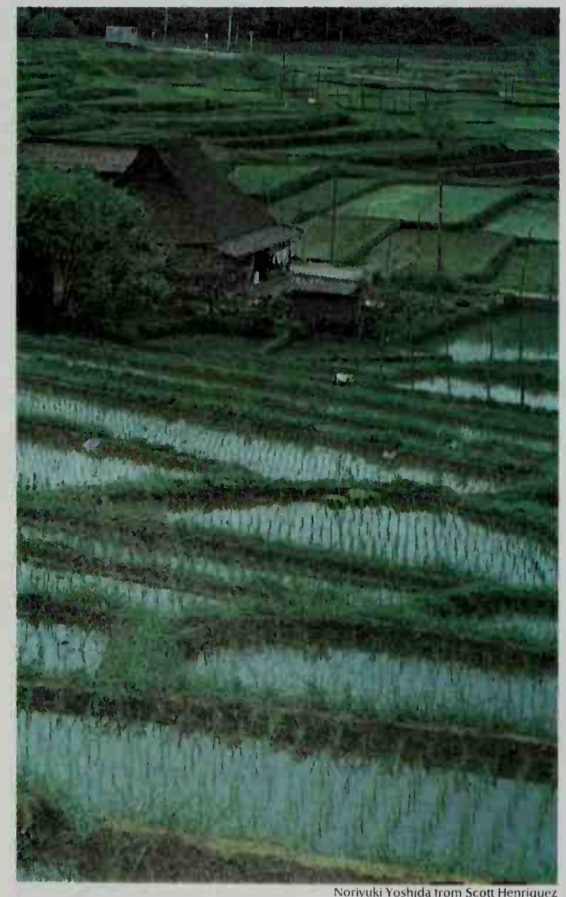
WORLD BOOK map



Fishing is an important industry in Japan. Fish are a chief source of protein in the Japanese diet. The dockworkers at left are handling a huge tuna catch.



Paul Chesley, Tony Stone Images



Noriyuki Yoshida from Scott Henriquez

Rice fields cover many hillsides in rural Japan. Farmland is limited because so much of the country is mountainous. But farmers grow most of the rice eaten in Japan.

hama. Hundreds of smaller ports and harbors enable coastal shippers to serve every major city in Japan.

Japan has many airports. Its busiest airports include Tokyo International, also called Haneda; New Tokyo International, also called Narita; and Kansai International at Osaka. Tokyo International handles most of Japan's domestic flights. New Tokyo International handles much foreign air traffic. Osaka's Kansai International was built on an artificial island in Osaka Bay.

Communication. Japan has thriving publishing and broadcasting industries. The nation has more than 100 daily newspapers. Each year, Japanese publishers produce tens of thousands of new books and periodicals, including popular comic books, called *manga,* for both adults and children. Virtually every Japanese household has at least one color television set and one or more radios.

The Japanese government operates the postal system. The country's telegraph and telephone systems are privately owned.

History

Early days. People have lived on the islands of Japan for more than 30,000 years. The earliest inhabitants lived by hunting and gathering food and made tools out of stone. Historians refer to the period of Japanese history between about 10,000 and about 300 B.C. as the Jomon era. During this time, people lived in small villages of about 50 people. To obtain food, they hunted for deer and boar, fished, and gathered nuts and berries. The main artifacts these people left behind were pots with markings made by cords or ropes. *Jomon* means *cord-marked.*

Near the end of the Jomon era, people in Japan learned new ideas and new technologies from contact with Korea and China. The Japanese learned how to grow rice in irrigated fields, and they began to settle in communities near the rice paddies. They also learned how to make tools and weapons out of bronze and iron.

This period is called the Yayoi era (about 300 B.C. to about A.D. 300).

By the end of the Yayoi era, different groups of extended families began to struggle for power in the Yamato Plain. The plain lies southeast of modern Kyoto. When the leaders of these groups died, their relatives buried them in large tombs called *kofun* that were often shaped like keyholes. The period of Japanese history from about 300 to 710 is often known as the Kofun era. It is also sometimes called the Yamato period. The tombs were surrounded with small clay sculptures called *haniwa*. Many haniwa are figurines of warriors or sculptures of bows and arrows, a sign that warfare had become an important part of Japanese society.

Chinese influence. In the 600's and 700's, one of the extended family groups began to dominate the others, and it declared itself Japan's imperial household. By tradition, the imperial family has no family name. The head of the imperial house, whose given name was Kotoku, became emperor in 645.

The next year, the imperial family began a program called the Taika Reform. The program involved constructing capital cities and organizing Japanese society following the example of China. The imperial family created a central government and official bureaus and adopted a system of land management similar to China's. Under this system, most people worked as farmers on land the government owned. In return, the farmers paid taxes to the government and provided labor, including service in the government's small armies.

To justify its claim to authority, the imperial family relied not on China but on ancient Japanese beliefs. Japanese histories written in the 700's maintain that the family had descended from the gods who created the Japanese islands in Japanese mythology. The family's presumed descent was through Amaterasu, the Japanese sun goddess.

Heian era. In 794, the imperial household moved to a new capital city called Heian-kyo, located at the site of today's Kyoto. During the next 400 years, Heian-kyo was the center of Japan's government and nobility.

During the Heian era, a male in the imperial household ruled as emperor. The male heads of noble families assisted the emperor by administering the government, collecting tax revenues, maintaining small armies, and judging legal disputes. These officials earned generous incomes and lived in large mansions in the capital city.

The ruling nobles used their leisure time primarily to observe nature and write poetry. Female members of the nobility, who were barred from holding office, had the most time for these pursuits. Women produced the era's most famous writings, including *The Tale of Genji.*

During the Heian era, the leading noble families undermined the power of the emperor and his government. One such family was the Fujiwara, who gained power by intermarrying with the imperial family.

Creation of private estates. As the central government's power declined during the Heian era, a new type of institution emerged—the *shoen* (private estate). Private estates were plots of land whose owners were free from government interference and taxation. The government began to establish these estates in the 700's to provide Buddhist temples and Shinto shrines with income to fund their religious activities. Gradually, the religious institutions became major landholders.

During the 700's, the government also began to allow tax exemptions to those who developed new lands for growing rice. The aristocratic families and religious institutions that had enough wealth to develop new lands acquired large holdings. Later, the Fujiwara and other high-ranking families in Heian-kyo used their influence to obtain ownership of other public lands. In the late 1000's, even retired emperors began taking land. By the 1200's, about half of the rice-growing land in Japan had been converted into private estates.

As the influence of the private estate owners increased, the power of the central government declined. With less public land, the government had less tax revenue to support its activities. The government and the aristocrats in Heian-kyo had to rely on bands of professional soldiers called *samurai* to protect the land and keep order in the countryside.

Important dates in Japan

c. 300 B.C.-c.A.D. 300 During the Yayoi era, new ideas and new technologies from China and Korea began to be used.
645 One family declared itself Japan's imperial family. Its head, Kotoku, became emperor.
646 The Taika Reform began. It set up a central government controlled by the emperor.
794 Heian-kyo (now Kyoto) became the capital.
1192 Minamoto Yoritomo became the first shogun. He established a military government headquartered in Kamakura.
1500's Japan endured a long period of wars among regional lords.
1603 The Tokugawa family began its more than 250-year rule.
1630's Japan closed itself off from the outside world.
1853 Commodore Matthew C. Perry of the United States arrived with a small fleet. This visit and a second one in 1854 led to the opening of Japanese ports to international trade.
1867 Revolutionaries overthrew the shogun and restored power to the emperor.
1868 On January 3, the emperor officially announced the return of imperial rule. The Meiji period began. Tokyo became the capital, and Japan began working to develop modern industries and to strengthen its military.
1895 Japan took control of Taiwan from China and began to build an empire.
1923 An earthquake struck the Tokyo-Yokohama area. The earthquake and the fires and *tsunami* (huge, destructive sea wave) that followed caused about 143,000 deaths and destroyed large areas of the two cities.
1931 Japan seized the Chinese province of Manchuria.
1937 Japan began a war with China. The fighting became part of World War II.
1941 Japan attacked U.S. bases at Pearl Harbor in Hawaii.
1945 The United States dropped atomic bombs on Hiroshima and Nagasaki. Japan surrendered to the Allies, and the Allied occupation of Japan began. It lasted until 1952.
1947 Japan's democratic Constitution went into effect.
1980's-1990's Opposition to Japan's international trade policies became strong in the United States, Canada, and some other countries.
1990's Japan's vigorous economy suffered a recession.
1993 The Liberal Democratic Party, which had ruled Japan since the party was founded in 1955, lost its majority in parliament for the first time. Japan began a period of political instability and frequent changes of government.

Rise of the shogun. By the 1100's, two large military clans—the Taira and the Minamoto—had armies of samurai under their command. Both clans were descendants of the noble families at court. In the late 1100's, the Taira and Minamoto clashed in a series of battles for power. The Minamoto finally emerged victorious in the 1180's.

The Minamoto established a new military government headquartered in Kamakura, a town in eastern Japan far from Heian-kyo. In 1192, the head of this military government, Yoritomo, was given the title of *shogun*, a special, high-ranking military post granted by the emperor. His military government became known as a *shogunate*.

Although Yoritomo was the emperor's special commander, he established his own separate bases of power. He assumed control of the administration of justice. He began to place nobles who had sworn loyalty to him on private estates and appointed others to oversee the remaining public lands. In this way, the shogun began to influence both areas of power in Japan—the imperial government and the private estates.

By the early 1200's, Japan's political situation had become highly unstable. The imperial government's influence was limited and declining. Private estate owners were struggling to retain control over their lands as the shogun's ambitious supporters expanded their influence.

The next 200 years brought waves of conflict and change. First, the Minamoto family lost its influence to members of the Hojo family, who ruled as agents in the name of the Minamoto shoguns. Then the military government in Kamakura fell to the superior force of another clan, the Ashikaga. The Ashikaga established a new military government in Kyoto in the 1330's. Gradually, the clan lost control of the nobles under its command. By the 1460's, Japan had no effective central political authority.

Warring states period. In the century after the 1460's, Japan was an armed camp. Peasants in the countryside were forced to take up swords to protect their communities. Temples with large landholdings trained their own armies of warrior-monks to protect their assets. Some estate owners gathered private armies of samurai to guard their lands. Samurai without masters roamed the country offering to fight for pay.

The most powerful samurai became regional lords called *daimyo*. They exercised control over many armed warriors and governed large areas of farmland. They fought each other for military supremacy during the 1500's, as Japan sank into a long period of civil war.

In 1549, Saint Francis Xavier, a missionary from Portugal, arrived in Japan and introduced a new element into this unstable scene. Xavier and a few other priests had come to convert the Japanese populace to Christian beliefs. The missionaries also intended to help Portuguese traders sell European luxury goods and up-to-date weapons to the Japanese.

The priests had little success in converting the Japanese to Christianity. But the traders found eager customers among the daimyo in southern Japan. The guns they sold were an explosive addition to the civil wars.

One regional lord who made much use of the weapons was Oda Nobunaga. Oda was a ruthless warrior



Detail of *The Burning of the Sanjo Palace* (late 1200's), an ink painting with colors on paper by an unknown Japanese artist; Museum of Fine Arts, Boston, Fenollosa-Weld Collection

Rival families fought for control of the Japanese government during the 1100's. Two large military clans—the Taira and the Minamoto—met in battle in 1160, *above*. The Taira won and ruled Japan until the Minamoto defeated them in 1185. The Minamoto established a military government. In 1192, the emperor gave the title *shogun* (great general) to the clan leader, Minamoto Yoritomo.

with a keen desire for power. In the 1560's, he gathered a large coalition of forces under his command and led them to Kyoto. He brought order to the capital district. He was beginning to impose control on other areas of Japan when he was killed in 1582.

Oda's successor, Toyotomi Hideyoshi, took up the task of uniting the nation. Toyotomi carried out several reforms with far-reaching effects. He disarmed the peasantry. He brought many of the unruly samurai under his control. And he surveyed most of the usable farmland in the country. Toyotomi tried to extend his power to Korea in the 1590's. Twice he tried to conquer Korea, but both times he failed.

Tokugawa period. Toyotomi was succeeded by a noble named Tokugawa Ieyasu, who had also served Oda Nobunaga. In 1603, the emperor gave Tokugawa Ieyasu the title of shogun. For the next 265 years, leaders of the Tokugawa house governed Japan as shogun.

The Tokugawa shogun presided over a delicately balanced system of authority. The shogun directly controlled about 25 percent of the farmland in the country. He also licensed foreign trade, operated gold mines, and ruled the major cities, including Kyoto, Osaka, and the shogun's capital—Edo, which is now Tokyo.

The Tokugawa shogun had to share authority with the daimyo, who controlled the remaining 75 percent of Japan's farmland. The number of daimyo during the Tokugawa period averaged about 270. Each of these daimyo governed his own *han* (domain). In each han, the daimyo, not the shogun, issued laws and collected taxes. During the Tokugawa era, Japan thus had only a partially centralized government.

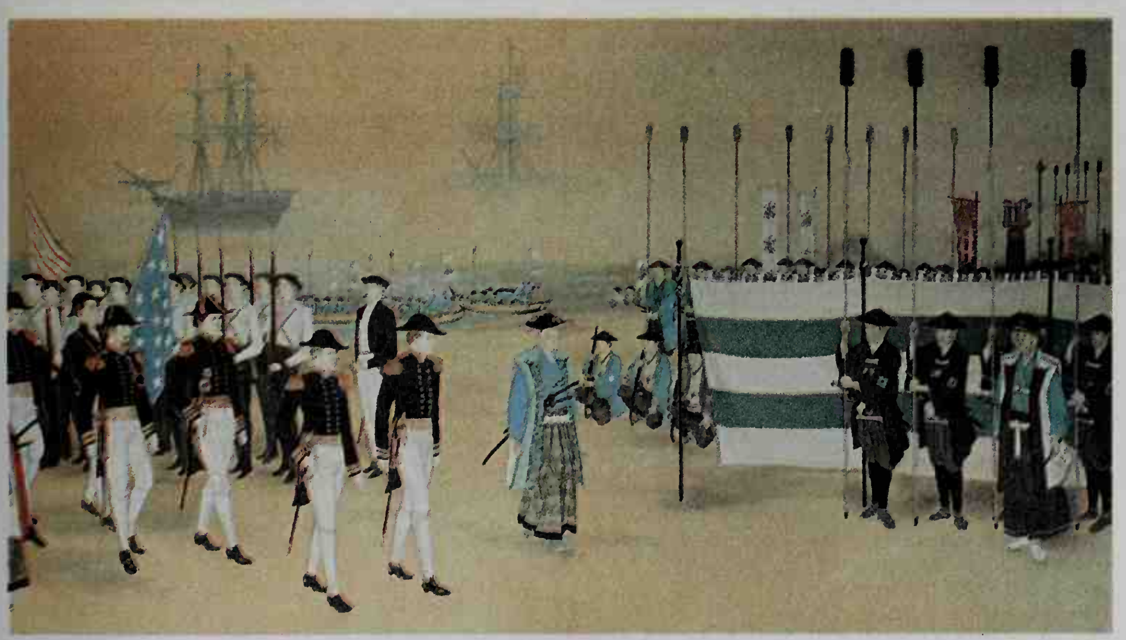
By the early 1600's, Japan was also home to five groups of foreigners: the Portuguese, Spanish, English, Dutch, and Chinese. Their presence disturbed the shogun, in part because the Tokugawa did not support Christianity, the religion of most of the outsiders. In addition, the shogun wanted to control Japan's international trade to prevent any daimyo from gaining too much wealth and power through trade with the outsiders.

For these reasons, the Tokugawa had most foreigners expelled from Japan during the 1630's under orders known as *seclusion edicts.* Only a few Dutch and Chinese traders were allowed to remain in Japan to conduct their business. But they could live only in the distant city of Nagasaki. That town served as Japan's sole window on the European world until the mid-1800's.

Japan had now put an end to centuries of internal wars and had closed itself off from the rest of the world. During this period of peace and isolation, the nation began to pursue its own course of development.

At this time, Japan laid the foundation for its future economic growth. People in all walks of life developed a strong work ethic and devotion to their craft and duty. Hard-working farmers in the countryside and merchants in the cities saved money and learned to invest it wisely. Trading firms in the large cities developed skills in finance, organization, and personnel management.

Entertainment and the arts also flourished, particularly in Edo. In the 1700's, Edo became one of the world's largest cities. It developed thriving industries to entertain the many samurai and merchants living there. Entertainers perfected the form of stage drama called *kabuki* and the puppet theater called *bunraku.* The entertain-



Detail of *The Opening of Japan* (mid-1920's?), a water color by Ogata Gassan; Kurihama Administration Center (International Society for Educational Information, Tokyo, from the Consulate General of Japan, Chicago)

An American mission led by Commodore Matthew C. Perry arrived in Japan in 1853. The United States government sent Perry to open diplomatic and trade relations with the Japanese. Japan had been closed off from the rest of the world since the 1600's. In 1858, partly as a result of Perry's efforts, Japan signed trade treaties with the United States and other Western countries.

ment districts, called *ukiyo* (the floating world), became the subjects of a new Japanese art style named *ukiyo-e*. The colorful wood-block prints depicted the men and women of the entertainment districts.

But the Tokugawa era was also a time of critical difficulties. The military government grew dull and strict. It discouraged individual freedoms and slowed commercial development. Government financial problems led to cuts in the income of samurai. Their declining incomes added to the samurai's growing dissatisfaction with Japan's rigid social structure, which prevented them from rising to better stations in life. Finally, poor harvests and harsh lords drove many peasants to join together in protest.

Renewed relations with the West. In 1853, renewed contact with the West led directly to sweeping changes. That year, a small fleet of American naval vessels sailed into the bay south of Edo. The fleet's commander, Matthew C. Perry, asked Japan to open its ports to international trade.

The shogun rebuffed Perry, but Perry returned in 1854. After many discussions, Japan allowed the United States to station a negotiator, Townsend Harris, in the small port of Shimoda, far from Edo. In 1858, Harris succeeded in his negotiations on behalf of the United States, and Japan signed a treaty of commerce. The treaty permitted trade between the two countries, called for opening five Japanese ports to international commerce, and gave the United States the right of *extraterritoriality*. This right enabled American citizens to be governed only by U.S. laws while they were on Japanese soil.

Many Japanese disapproved of the treaty and similar agreements signed later. To them, the treaties were unequal, because Japan had granted extraterritoriality and other privileges that were not given to the Japanese in turn. The treaties enraged many samurai, who attacked and killed some foreign officials. The samurai also plotted to overthrow the shogunate.

Meiji era. In 1867, a small group of samurai and aristocrats pressured the shogun into resigning and restored the emperor to his previous position as head of the government. The revolutionaries disapproved of the trade treaties and wanted to increase Japan's security and well-being in what they considered a dangerous and competitive world. They acted without support of the Japanese people.

On Jan. 3, 1868, the emperor officially announced the return of imperial rule. The emperor, a teen-ager named Mutsuhito, adopted *Meiji*, meaning *enlightened rule*, as the name for the era of his reign. He reigned from 1868 to 1912, a span of time known as the *Meiji era*. The revolution that placed him in power is known as the Meiji Restoration.

In practice, however, the leaders of the Meiji Restoration and their successors ruled the country, not the emperor. The leaders adopted the slogan "Enriching the Nation and Strengthening the Military" as their guiding policy. By enriching Japan, the new leaders believed they would enable the nation to compete with the Western powers.

To compete in the late 1800's meant building modern industries. And so Japan embarked on an ambitious program of economic development. The nation invested in coal mines, textile mills, shipyards, cement factories, and many other modern enterprises.



WORLD BOOK map

Japan expanded its territory in the late 1800's and early 1900's as a result of three wars: the first Chinese-Japanese war (1894-1895), the Russo-Japanese War (1904-1905), and World War I (1914-1918). By 1919, Japan was a world power.

Few of these ventures were successful, however. In the 1880's, the government began selling its industries to private companies. Some of these companies, such as the Mitsui and Sumitomo groups, were old merchant houses that had been in business since the 1600's. Others, such as the Mitsubishi group, sprang up after the Meiji restoration. From the 1880's to the 1940's, these business enterprises grew large and rich. These conglomerates became known as *zaibatsu*.

Most zaibatsu were owned and operated by a single family or a family group. They created many related ventures, especially in banking, insurance, international trade, manufacturing, and real estate. The zaibatsu cooperated with the government to promote its aim of enriching the nation. But they remained private enterprises that enriched themselves at the same time.

The second strategy of the Meiji leadership was to strengthen Japan's military force. Former samurai took charge of a modern military recruited from the sons of farmers. With the advice of European military experts, the government built naval shipyards and assembled military arsenals. Within 20 years after the Meiji restoration, Japan had developed the best military force in East Asia.

From 1868 to 1889, government leaders also experimented with different methods of organizing the nation's political institutions. In 1889, they produced Japan's first Constitution. This document made the emperor the head of the government and established a cabinet of ministers and a legislature with two houses. The Constitution spelled out the rights and duties of the citizens, and it created a system of courts.

Under this Constitution, the powers of the Japanese people were extremely limited. The leaders of the restoration and their appointees continued to hold real

power. These men now served in official roles as prime ministers and Cabinet members.

Another aim of the new government was to reorganize society. The nation removed the restrictions that had prevented people from pursuing any occupation they desired. New laws made the family the basic unit of society and males the heads of households. Some of these laws limited women's rights more drastically than they had been during the Tokugawa era of the 1600's to mid-1800's.

Finally, the government established an ambitious system of public education. By the early 1900's, Japan offered free elementary education to most young people. More advanced, specialized schooling was available to students who had the money and talent to proceed further. This school system made it possible for many people to improve their status in society. It greatly assisted Japan's economic development. The schools also cultivated in students a strong sense of national pride and superiority.

Imperialism. In due course, the Meiji government's emphasis on military might and the educational system's emphasis on Japanese superiority led to war. In 1895, Japan began to build an empire like those of Britain and other European powers. Three Asian regions were the initial targets of Japanese expansion: Taiwan, Korea, and Manchuria.

After defeating China in a short war, Japan assumed control over Taiwan in 1895. The Japanese then exploited Taiwan as an agricultural colony producing rice and sugar.

Korea fell under Japanese control in 1910, following a bitterly fought war between Japan and Russia in 1905. Japan exploited Korea for its rice and its potential to develop industries. Remembering stories of Toyotomi's invasions in the 1590's, Koreans fiercely resented Japan's colonization. The Japanese treated them badly in return.

The Russo-Japanese War also gave Japan a small foothold in Manchuria. There, Japan's army of occupation gradually expanded its control.

World War I began in 1914. Japan, as an ally of Britain, at once declared war on Germany. The war gave Japan an opportunity to enlarge its empire slightly. More important, the war gave Japan an economic advantage in India and the rest of Asia. As Western nations became preoccupied with the war in Europe, they stopped their investment and trade in the East. Japanese exporters and manufacturers took that opportunity to move into Indian and other Asian markets. The zaibatsu expanded, and Japan's economy boomed.

Rise of militarism. The 1920's were a time of great difficulties for Japan. After the war, Western nations reestablished trade with India and the rest of Asia, and the Japanese economy suffered. In 1923, a terrible earthquake struck the Tokyo-Yokohama area and led to the deaths of about 143,000 people. A worldwide depression during the late 1920's further hurt the Japanese economy.

About this time, China began to strengthen its administration in Manchuria. Japan feared it might lose the rights it gained in the Russo-Japanese War.

Japan's prime minister and other government leaders could not deal with the problems troubling Japan. Officers in the Japanese army decided to take matters into their own hands. In 1931, the Japanese occupation force took control of Manchuria. At home, nationalist groups began to threaten members of the government who opposed the army. On May 15, 1932, nationalists assassinated Prime Minister Tsuyoshi Inukai.

By 1936, Japan's military leaders were in firm control of the government. As Japanese armies marched across China and into Southeast Asia, the United States grew

AP/Wide World



Emperor Hirohito, *on the white horse,* reviewed Japanese troops in 1938. Japan's military had become increasingly powerful during the 1930's. By 1936, military leaders held firm control of Japan's government.

increasingly concerned. Meanwhile, Japan moved toward closer relations with Nazi Germany and Fascist Italy by signing anti-Communist pacts with the two nations.

World War II began in Europe in September 1939. In September 1940, Japanese troops occupied the northern part of French Indochina. When they moved into the southern part of Indochina the next year, the United States cut off its exports to Japan.

In the fall of 1941, General Hideki Tojo became prime minister of Japan. Japan's military leaders began preparing to wage war against the United States.

Japanese bombers attacked the U.S. military bases at Pearl Harbor in Hawaii on Dec. 7, 1941. They also bombed U.S. bases on Guam and Wake Island and in the Philippines. The bombing brought the United States into war against Japan and Japan's European allies, Germany and Italy.

Japan quickly won dramatic victories in Southeast Asia and in the South Pacific. By 1942, the Japanese empire spanned much of the area from the eastern edge of India through Indonesia, and from the Aleutian Islands near Alaska to the Solomon Islands in the South Pacific Ocean.

The Japanese fleet suffered its first major setback in May 1942, when the United States fought the Battle of the Coral Sea to a draw. The U.S. victory in the Battle of Midway the following month helped turn the tide in favor of the United States. As Japanese defeats increased, political discontent in Japan grew. On July 18, 1944, Prime Minister Tojo's Cabinet fell.

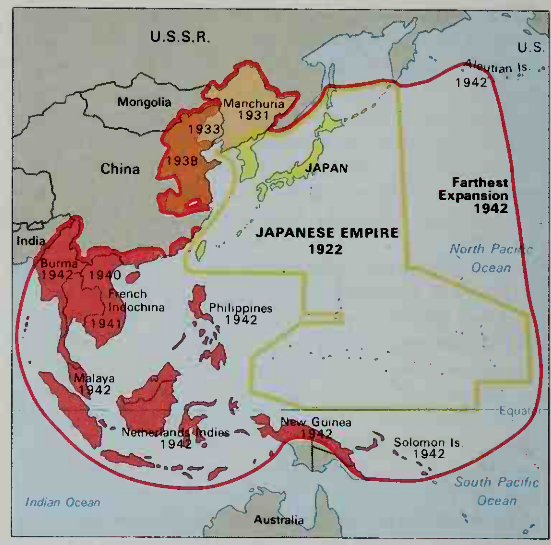
Early in 1945, the battle for the Japanese homeland began. American bombers hit industrial targets, and warships pounded Japanese coastal cities. American submarines cut off the shipping of vital supplies to Japan. On August 6, the United States dropped the first atomic bomb ever used in warfare on the city of Hiroshima. Two days later, the Soviet Union declared war on Japan and invaded Manchuria and Korea. The next day, U.S. fliers dropped a second and larger atomic bomb on Nagasaki.

Japan agreed to surrender on August 14. The next day, Emperor Hirohito announced to the Japanese people that Japan had agreed to end the war. On Sept. 2, 1945, Japanese officials officially surrendered aboard the battleship U.S.S. *Missouri* in Tokyo Bay.

Japan lost all its territory on the mainland of Asia. It also lost all the islands it had governed in the Pacific. The nation kept only its four main islands and the small islands nearby. In the 1950's, 1960's, and 1970's the United States returned to Japan the Bonin Islands, Iwo Jima, and the Ryukyu Islands. Russia still occupies the Kuril Islands.

Allied military occupation. Japan's defeat brought foreign occupiers to its shores for the first time in its long history. Under the direction of U.S. General Douglas MacArthur, the occupation force carried out a sweeping set of reforms inspired by American ideals. The Japanese government served only to carry out MacArthur's orders.

Under the occupation, more than 5 million Japanese troops were disarmed. The Allies tried 25 Japanese leaders for war crimes. Seven of the leaders, including former Prime Minister Tojo, were executed. The rest were sent to prison.



WORLD BOOK map

The Japanese empire in 1942 reached its greatest extent. In 1931, Japan conquered Manchuria and then advanced into other parts of China and Southeast Asia. The map above shows the stages of Japanese expansion from 1931 to 1942.

The Allied occupation force began reforms in 1946, when MacArthur and his advisers drew up a new Japanese Constitution. Under this document, the emperor lost all real power and became merely a symbol of the state. The two-part legislature became Japan's supreme lawmaking body. A civilian prime minister, chosen by majority vote in the legislature, became head of the government. The rights of the people increased dramatically compared with those granted by the Meiji Constitution.

The American occupiers also began economic and social reforms. They redistributed farmland, legalized labor unions, and encouraged new laws giving women and children greater rights. The Americans also reorganized Japan's educational system to make it more democratic.

In 1951, Japan signed a peace treaty with 48 nations that went into effect on Aug. 28, 1952. The Allied occupation officially ended on that day.

Postwar boom. The Japanese economy suffered greatly from World War II. Allied bombing destroyed many of the nation's factories and nearly leveled most large cities. Many Japanese were forced out of work. Much of the population lived in dire conditions in small rural villages, and they depended on friends and neighbors to survive.

Japan was almost closed off from the outside world because many of its trading ships had been destroyed. The value of its currency, the *yen,* dropped so low that Japan could not afford to purchase many foreign goods.

Recovering from these losses took about a decade of effort. The United States provided financial assistance, but the Japanese national government played the central role in promoting reconstruction.

After the war, the government began to guide and direct the nation's industries. The government formed the Ministry of International Trade and Industry to identify

the industries in Japan that needed to be developed. Then the Ministry of Finance directed investment funds toward these enterprises. The Japanese tradition of working hard, saving money, and investing wisely helped the nation become economically stable. By the mid-1950's, the output of most Japanese industries matched their prewar levels.

From 1955 to 1993, a single conservative party called the Liberal Democratic Party (LDP) dominated national politics. The Liberal Democratic Party consistently won the most seats in the Diet as well as in the prefectural and local assemblies. The LDP strongly advocated Japan's economic growth, and it put into effect many successful policies.

Many social changes occurred during the postwar years. Fewer and fewer people stayed in rural areas to earn a living by farming. Instead, they moved to cities and became workers in manufacturing or service industries. Families saw their incomes doubling and tripling within a generation.

Cooperation and harmony continued to be prized ideals in Japan. But the pressures to conform to society's expectations were less apparent in large cities than in the small villages. Young people felt freer to be individuals than their parents and grandparents had.

Even the imperial family took part in some changes. In 1959, Crown Prince Akihito broke tradition by marrying a commoner, Michiko Shoda, the daughter of a wealthy industrialist. In 1971, Emperor Hirohito and Empress Nagako visited Western Europe. This visit marked the first time that a reigning Japanese emperor had ever left the country.

Political changes. Emperor Hirohito died in 1989, and his son, Akihito, began to reign. It soon began to appear that Akihito's era would be a time of unsettling political and economic change.

Troubles for Japan's long-term ruling political party, the LDP, began in the 1980's. A number of leading government figures were accused of raising campaign funds illegally. Some were tried and convicted of corruption. Voters began to turn against the LDP. In mid-1993, the party lost its majority in the Diet.

For nearly 10 months, a coalition of seven other parties governed. The coalition passed a number of major laws reforming the election system. But its members could not overcome their differences on other issues.

The LDP returned to power in mid-1994, ruling in alliance with the Social Democratic Party of Japan and the New Harbinger Party. In late 1994, most of the governing coalition's opponents formed the New Frontier Party. By the mid-1990's, Japan's political parties had gathered into two large factions, one composed of the LDP and its allies, the other a coalition of opposition parties. But conflicts among and within the parties continued.

Economic troubles also arose in the late 1980's, as Japanese manufacturers began finding it difficult to sell their products abroad. Japan's strong currency, high real estate values, and high labor costs all made Japanese goods expensive to overseas customers. Japanese manufacturers also had to compete with low-cost businesses from newly developing nations.

At the same time, the Japanese banking system began to suffer because the banks had made many loans during the late 1980's that failed as real estate prices dropped in the 1990's. The result of Japan's problems in trade and finance was a recession, a period when the economy virtually stopped growing. In the 1990's, Japan's unemployment rate rose, average household incomes nearly stopped growing, and consumer spending declined. However, other nations also suffered economic problems, so Japan's relative economic position in the world did not change dramatically. But economic anxiety spread throughout Japan as businesses and workers tried to maintain their competitive edge.

Recent developments. In 1997, the New Frontier Party disbanded. During 1998, Japan's opposition parties regrouped, and two major opposition parties emerged, the Democratic Party of Japan and the Liberal Party. Japan's economic troubles continued into the early 2000's. Gary D. Allinson

Related articles in *World Book* include:

Political and military leaders

Akihito
Hideyoshi
Hirohito
Jimmu Tenno
Konoye, Prince Fumimaro
Meiji, Emperor
Minamoto Yoritomo
Tojo, Hideki
Tokugawa Ieyasu
Yamamoto, Isoroku
Yamashita, Tomoyuki

Cities

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Sapporo
Tokyo
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Boxer Rebellion
China (History)
Chinese-Japanese wars
Colombo Plan
Deming, W. Edwards
Gentlemen's agreement
Kamakura period
Kamikaze
Kofun era
MacArthur, Douglas
Manchuria
Mikado
Perry, Matthew Calbraith
Russo-Japanese War
Samurai
Shogun
World War I (Fighting elsewhere)
World War II

Arts and recreation

Architecture (Japanese architecture; picture)
Dance (Asian theatrical dance; picture)
Doll (Doll festivals and customs; picture)
Drama (Japan; picture)
Flower (Flower arranging; pictures)
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Japanese literature
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Other related articles

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Asia (Way of life in East Asia)
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Japan, Sea of
Japanese language
Jinrikisha
Kuril Islands
Kuroshio
Labor movement (Labor around the world)
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National park (Japan)
Navy (World War II)
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Space exploration (Japan)
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VIII. History

Questions

What is the oldest form of Japanese drama?
Why does Japan have many earthquakes each year?
How does the Japanese economy depend on foreign trade?
Who are the *burakumin*?
Why are *juku* important to Japanese students?
How do monsoons affect Japan's climate?
How did the Constitution of 1947 change the Japanese government?
What percentage of Japan's land can be cultivated?
Why did the Tokugawa rulers expel most foreigners from Japan in the 1600's?
Why did Japan's economy recover rapidly after World War II?

Additional resources

Level I

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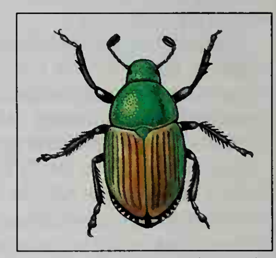
Japan, Sea of, separates the islands of Japan from Korea and the eastern coast of Russia (see **Japan** [terrain map]). The Sea of Japan is also known as the East Sea. The southern end of the sea is connected to the East China Sea by the Korea Strait. The northern end of the sea is connected to the Pacific Ocean by Tsugaru Strait, and to the Sea of Okhotsk by La Perouse Strait and Sakhalin Strait. The Sea of Japan covers about 400,000 square miles (1,000,000 square kilometers).

David A. Ross

Japan Current. See Kuroshio.

Japanese beetle is an insect that injures grasses, trees, crops, and garden plants. The beetle entered the United States about 1916. It probably was accidentally imported in the roots of nursery plants from Japan. It is now found in all states east of the Mississippi River and in the Canadian provinces of Quebec and Ontario.

An adult Japanese beetle is about $\frac{1}{2}$ inch (13 millimeters) long. Its coppery-brown front wings are hard and meet in a line down the center of the back. The rest of the body is metallic-green. Twelve tufts of white hair grow along the back edge of the body.



WORLD BOOK illustration by Oxford Illustrators Limited

Japanese beetle

Adult Japanese beetles live for about two months. The females lay their eggs in the soil in midsummer. The young insects, called *grubs,* hatch in about two weeks. They have white comma-shaped bodies with brown heads and swollen tails. The grubs burrow into the soil until the following spring. They eat the roots of plants, especially those of grasses. In late May or early June, the grubs enter the *pupa* (inactive) stage and emerge as adults near the end of June. The adults feed on the leaves, flowers, or fruits of plants.

The U.S. Department of Agriculture has released several types of parasites that attack Japanese beetle grubs. A bacterial disease, called *milky spore,* also can be used to kill the grubs. Adult beetles may be killed with insecticides or lured into baited traps. John R. Meyer

Scientific classification. The Japanese beetle belongs to the scarab family, Scarabaeidae, in the order Coleoptera. It is *Popillia japonica.*

Japanese chin is a dainty, graceful toy dog. It weighs from 5 to 9 pounds (2.3 to 4 kilograms). It has a broad, rounded head; large, dark eyes; and a very short nose. Its coat is long and silky, with longer hair around its neck and on its tail and legs. The coat is white, with patches of black or red. The Japanese chin was brought to the Western world from Japan in the 1850's. The breed, which probably originated in China, was formerly called *Japanese spaniel.*

Critically reviewed by the Japanese Chin Club of America

Japanese language is the native tongue of the people of Japan and the neighboring Ryukyu and Bonin islands. Since 1868, the speech of the city of Tokyo has become the standard language of the Japanese people.

The rhythm of Japanese allows an even, metronome-like beat for each syllable. Differences in pitch are the

distinctive features of words and phrases, much as differences in stress and emphasis are typical of English. Japanese dialects can be divided into three types, based on pitch-accent patterns. Standard Japanese illustrates the *majority* type. The *Kansai,* or *Western,* type is characteristic of western Honshu, most of Shikoku, and southern Kyushu. The *single-pattern* type is found in northeastern Honshu and central Kyushu.

The structure of Japanese is similar to that of Korean. Both resemble languages of the Ural-Altaic type, which also includes Finnish and Turkish. The origins of these languages are still uncertain.

Japanese is spoken in different styles according to social situations. The *intimate* is correct in everyday conversation with family, friends, and coworkers. The *polite* is used with cultivated company and strangers. The *honorific* style confers honor and respect when spoken and is used for older people and superiors. There are also the *impersonal* style used in speeches and writing, and the *modern literary* style.

The Japanese language has both inflected and uninflected words. Each inflected word consists of a stem and one or more of a set of endings. Among inflected words are adjectives and verbs. The uninflected words include nouns and most conjunctions and *postpositionals.* A postpositional indicates a noun's grammatical function within the sentence.

The Japanese language has 16 consonant sounds and 5 vowel sounds—*ah, ee, oo, eh,* and *oh.* A syllable may consist of only a vowel, only the nasal *n,* a consonant plus a vowel, or a consonant plus the semivowel *y* plus a vowel. Thus, the word *ryokan* would have three syllables—*ryo, ka, n.* The word *taitei* has four syllables—*ta, i, te, i.*

The Japanese predicate always ends the sentence, preceded by subject, object, indirect object, and other phrases in variable order. Each noun is followed by a postpositional.

The Japanese borrowed the Chinese system of writing, as well as many Chinese words. In order to express the complex Japanese grammatical endings, some Chinese characters were used as phonetic symbols without any meaning attached. These were later simplified into two systems of phonetic symbols called *kana,* which represent the sounds of the Japanese syllables.

Today, the two *kana* systems, called syllabaries, and about 2,000 Chinese characters are used in writing Japanese. The *hiragana* syllabary is used most often. It is a set of rounded characters derived from cursive Chinese characters. The more angular *katakana* syllabary is derived from parts of Chinese characters. *Katakana* is used to write words and other language elements in the equivalent elements of another alphabet. Katakana is also used to make a word stand out in a text, much like italics are used in English.

The Roman alphabet is also taught in Japanese schools, along with Romanized Japanese. Most books about Japan Romanize Japanese using the *Hepburn* system. This system writes consonants with their nearest English equivalent and vowels as in Italian. A slightly different Romanization, the National, is taught in Japan.

Laurel Rasplica Rodd



John V. Grohol from Michael and Carole Benson (Japanese Chin Club of America)

The Japanese chin

Japanese literature ranks as one of the world's great literatures. It reflects many characteristics of the Japanese people, such as their appreciation of tradition and their sensitivity to nature. The Japanese probably produced their first written literature during the A.D. 500's. But Japan long remained isolated from the rest of the world, and its written language was difficult to master. Therefore, Japanese literature remained almost unknown outside Japan until the 1900's.

Beginnings. The oldest existing works of Japanese literature are two histories, *The Record of Ancient Matters* (A.D. 712) and *The Chronicles of Japan* (720). These works chiefly glorify the deeds of the imperial family but also include folk tales, legends, myths, and songs.

The earliest collection of Japanese poetry, the *Man'yoshu,* also appeared during the 700's. It contains more than 4,500 poems by hundreds of poets. Japanese poems, partly because of the nature of the language itself, have subtle rhythms and no rhyme. They are written with a fixed number of syllables. The *Man'yoshu* consists mainly of 31-syllable poems called *tanka,* which deal with friendship, love, and nature. It also has some longer poems, many of which praise the imperial family.

The Heian period (794-1185) was the first great period of Japanese literature. Most people who wrote and enjoyed literature at the time were members of the nobility. The greatest writers were women.

The first work of Japanese fiction, *The Tale of the Bamboo Cutter,* written by an unknown author, dates from the early 900's. In the early 1000's, Murasaki Shikibu, a lady-in-waiting to a famous empress, wrote *The Tale of Genji* (see **Murasaki Shikibu**). This long novel is considered the greatest work of Japanese fiction. It far surpassed previous stories with its sophisticated style and accurate description of human emotions.

Diaries and essays were also important literary forms during the Heian period. Sei Shonagon portrayed the customs and values of Heian court society in her volume of essays called *The Pillow Book.*

By the 900's, the vocabulary and themes of Japanese verse had narrowed, reflecting the elegant tastes of the aristocracy. Technical skill was an important feature of poetry. Buddhist ideas about human mortality brought a new seriousness to Japanese poetry during the 1100's. In

addition, poets tried to reach beyond the limits of short individual poems by writing groups of poems with related themes and images.

The medieval period (1185-1587). The educated warrior classes joined the nobility in producing and reading literature during the medieval period. In the early 1300's, a trend toward historical fiction and an increasing mood of pessimism about human fate inspired the creation of *The Tale of the Heike.* This war story, whose author is unknown, describes the rise and violent fall of the Taira (Heike) family. Minstrels recited *The Tale of the Heike* throughout the Middle Ages, and it was the source of stories for plays and fiction in later centuries.

The most famous medieval Japanese essays include *An Account of My Hut* by Kamo no Chomei and *Essays in Idleness* by Yoshida Kenko. These works provide insight into traditional Japanese attitudes toward life and art. In poetry, the tanka remained the chief verse form throughout the medieval period. However, poets also composed *renga,* which were chains of interlocking poems written by several poets.

The oldest form of Japanese drama, the *no* drama, was first performed in the 1300's. It developed from performances of song and dance that had long been part of religious and folk rituals. In the late 1300's, an actor and playwright named Zeami Motokiyo shaped the no drama into the form in which it is still performed today. He combined dancing and chanting with literary themes and poetic language from the past.

The Tokugawa period (1603-1867). The most successful literary works of the Tokugawa period were those aimed at people of the new middle classes, who lived in the cities. Many prose works of the time dealt with scenes of urban Japan and with humorous or sexual subjects. In the late 1600's, Ihara Saikaku abandoned a successful career as a poet and became the most famous fiction writer of the period.

During the Tokugawa period, a new verse form called *haiku* challenged the popularity of the tanka. Haiku has 17 syllables and began as a comic style of verse that was simple to write. But in the late 1600's, Matsuo Basho changed haiku into a serious art form. His haiku, written according to strict rules, present aspects of nature and contain a reference to a season of the year. These poems merely suggest ideas and feelings, and so the reader must use imagination to interpret them.

Two new types of drama, *kabuki* plays and puppet theater, flourished during the 1600's. Kabuki plays are melodramatic and feature colorful costumes and lively music and acting. The puppet theater of the early 1700's featured several dramatic masterpieces by Japan's greatest playwright, Chikamatsu Monzaemon. The poetic power of Monzaemon's scripts turned simple characters, such as shop clerks and prostitutes, into tragic figures. See Drama (Japan).

The modern period. The influence of Western ideas has greatly changed Japanese literature since the end of the Tokugawa period. The major result of this influence has been the development of the modern novel. During the 1880's, a small group of writers educated in Western languages called for a break with older forms of literature. Such authors as Futabatei Shimei and Tsubouchi Shoyo thought the Japanese should write European-style novels as an intellectual counterpart to Japan's technological modernization. Futabatei soon produced such a novel, *Drifting Clouds* (1889).

Many people consider Natsume Soseki the greatest Japanese novelist (see Natsume Soseki). As a novelist and literary critic of the early 1900's, he established the modern novel as a respected form of literature. Shiga Naoya's novel *A Dark Night's Passing* (1937) has ensured his fame. Two Japanese novelists have won the Nobel Prize for literature, Yasunari Kawabata in 1968 and Kenzaburo Oe in 1994. Other outstanding modern Japanese novelists include Tanizaki Jun'ichiro, Abe Kobo, and Yukio Mishima.

Western literature has also influenced Japanese poetry and drama of the 1900's. Some poets still write the traditional tanka and haiku, but longer poems and free verse now account for much Japanese poetry.

In spite of Western influences, however, tradition remains strong in Japan. In 1970, Yukio Mishima killed himself in the manner of a medieval warrior. He did so while proclaiming the same reverence for the imperial family that appears prominently in the earliest Japanese literature. Laurel Rasplica Rodd

See also Higuchi Ichiyo.

Additional resources

Keene, Donald. *A History of Japanese Literature.* 4 vols. 1976-1993. Reprint. Columbia Univ. Pr., 1998-1999.

Keene, Donald, ed. *Anthology of Japanese Literature.* 1955. Reprint. Grove Pr., 1988.

Japanese print is a type of Japanese illustration printed on paper from carved blocks of wood. The most famous Japanese prints were produced from the 1600's to the late 1800's. They are noted for their brilliant designs, bold colors, and technical quality.

Most Japanese prints portray scenes from everyday life or from the theater and other popular forms of entertainment. The Japanese referred to these fleeting moments of life and passing amusements as the "floating world." They called the prints *ukiyo-e,* which means *pictures of the floating world.*

Printing techniques

Japanese prints were designed by highly trained artists and produced by skilled artisans. The early prints were made in black and white, though the artists sometimes added other colors by hand. The Japanese began to produce color prints in the mid-1700's.

Black-and-white prints were made from one block of wood. First, the artist drew a design in ink on paper. The drawing was glued onto a block of hardwood, usually cherrywood. A carver cut away the portions of the wood between the lines of the drawing, which left the design itself raised. A printer then applied a water-based ink to the raised surfaces of the wood block. A piece of absorbent paper was placed on the inked block. The printer rubbed the back of the paper with a smooth-surfaced pad, and the ink soaked into the paper. The printer then pulled the paper from the block, and the design appeared in print. The block could be used repeatedly to make hundreds of prints.

The production of color prints required additional blocks of wood, one for each color used. The carver cut each block so that the only areas left raised were those to be used for a certain color. The printer then applied

various colored pastes to the blocks and placed the paper on each block in succession.

History

Japanese prints originated in the early 1600's as illustrations in popular books. Many people became interested in the pictures themselves, and so publishers began to produce the illustrations separately from books. The publishers commissioned the artists and hired the carvers and printers.

Printmaking flourished in Japan during the Tokugawa period of the nation's history, which lasted from 1603 to 1867. During this period, a middle class arose and prospered in Japan's cities. The people of the middle class were the chief buyers of Japanese prints, which served as inexpensive substitutes for paintings. Japan had little contact with other countries during the Tokugawa period. Thus, Japanese print artists were not influenced by Western art styles. These artists followed Japanese art styles that had developed over centuries.

The master print artists. One of the earliest known Japanese print artists was Moronobu, who lived during the 1600's. He created black-and-white prints of scenes from everyday life.

A technique that enabled artists to create color prints was introduced in the mid-1700's. This technique involved carving wood blocks with guide marks so that printers could place paper in the same position on successive blocks. Harunobu, an artist of the mid-1700's, helped popularize color prints. His prints feature doll-like human figures and peaceful settings. They are noted for their beautiful colors and delicate lines.

Utamaro and Sharaku were among the greatest print artists of the late 1700's. Utamaro was especially known for his portraits of beautiful women. Sharaku specialized in portraits of *kabuki* actors. Kabuki is a form of Japanese drama that developed in the 1600's. His portraits have the exaggerated features typical of caricatures.

Landscape prints became popular in Japan during the 1800's. Hokusai and Hiroshige designed magnificent landscape prints. These artists created many series of prints of a particular scene in nature under a variety of weather conditions.

The decline of printmaking. During the mid-1800's, the Tokugawa government became weakened by economic problems and social upheavals. The *shogun* (military ruler) resigned in 1867, and Emperor Mutsuhito officially became ruler in 1868. The new government began to modernize Japan and introduced many Western inventions and traditions into the country.

The drive for modernization led to the decline of traditional Japanese printmaking. Many Japanese artists adopted Western-style painting, and they produced few high-quality prints. In the 1920's, interest in printmaking returned in Japan. Since then, Japanese woodcut artists have followed Western styles and techniques.

Japanese prints had a great influence on many European and American artists of the late 1800's, including Edgar Degas of France and James A. M. Whistler of the United States. These artists sought alternatives to Western art styles and were fascinated by the unusual designs, bold colors, and pictorial conventions of Japanese prints. Robert A. Rorex

Related articles in *World Book* include:

Degas, Edgar	Harunobu	Sharaku
Drama (pictures: Japanese kabuki plays)	Hiroshige	Utamaro
	Hokusai	Whistler, James A. M.
	Japan (The arts)	

Japanese spaniel. See Japanese chin.

Jargon. See **Language** (table: Linguistic terms); **Slang.**



Girl with Lantern on a Balcony at Night (mid-1700's); the Metropolitan Museum of Art, New York City, Fletcher Fund, 1929

A tranquil nighttime scene, *above,* by Harunobu shows a girl on a balcony silhouetted against the black sky. Harunobu was famous for the delicate, doll-like quality of the women in his prints.



The Actor Bando Hikosaburo III and the Actor Iwai Hanshiro IV (about 1794) by Sharaku; the Metropolitan Museum of Art, New York City, Whittelsey Fund, 1949

Theatrical prints illustrated scenes from Japanese plays. Such prints were especially popular in the 1600's and 1700's. The one shown above emphasizes the colors and patterns of the costumes.



Beauty with Fan and Parasol (late 1700's) by Utamaro; the Metropolitan Museum of Art, New York City, The Howard Mansfield Collection, Rogers Fund, 1936

Beautiful women appear in many prints by Utamaro. In his portrait of the graceful woman shown above, Utamaro used the kimono, fan, and parasol to create bold contrasts of color and pattern.

Jarrell, *juh REHL* or *JAR uhl,* **Randall** (1914-1965), was an American poet and critic. His experiences in the United States Army Air Corps during World War II (1939-1945) are reflected in two books of poems, *Little Friend, Little Friend* (1945) and *Losses* (1948). "The Death of the Ball Turret Gunner" uses understatement to expose the impersonal horror of modern-day warfare.

In Jarrell's later poems, he dramatized the losing battle he saw all people fighting against time and an indifferent universe. Jarrell believed that we can only hope to cultivate an intense, compassionate awareness of our position and cherish the moments of happiness from our past. Even so, there is no escape from a world in which "it is terrible to be alive." Jarrell's most eloquent variations on this theme appear in poems about his childhood in his last volume, *The Lost World* (1965). *The Complete Poems* appeared in 1968, after his death.

Jarrell was a superb interpreter of poets he admired, as in *Poetry and the Age* (1953). Other essays and reviews were collected in *The Third Book of Criticism* (1969) and *Kipling, Auden & Co.* (1980). Jarrell also wrote a satirical novel called *Pictures from an Institution* (1954) and children's books. He was born in Nashville.

Steven Gould Axelrod

Jarret de Verchères, Marie Madeleine. See Verchères, Marie Madeleine Jarret de.

Jaruzelski, *YAH roo ZEHL skee,* **Wojciech,** *VOY chehk* (1923-), was the top leader of Poland from 1981 to 1989. He became Poland's leader when he was elected head of the country's Communist Party in 1981. As leader, he faced economic problems and protests against the Communist Party's political monopoly.


AP/Wide World
Wojciech Jaruzelski

In December 1981, Jaruzelski established martial law in an effort to restore order. His administration established strict controls over the lives of the Polish people. It outlawed independent social organizations such as Solidarity, a free labor union led by Lech Wałęsa. Martial law was officially ended in 1983. But the government kept many controls over freedom. In 1989, the government ended its ban on Solidarity and other organizations. It also allowed the freest elections to Parliament since the country became a Communist state in 1945.

In the elections, non-Communist candidates backed by Solidarity had the greatest success. The government was then restructured. In 1985, Jaruzelski had become president of the government—then a largely ceremonial post. Under the restructuring, the presidency became a much more powerful post. Jaruzelski was elected president under the new system, and he resigned his position as Communist Party head. A presidential election was held in 1990. Jaruzelski did not run for the office.

Jaruzelski was born in Kurów, near Lublin. In 1939, the Soviet Union invaded Poland. The Soviets deported Jaruzelski and many other Poles to the Soviet Union. After German troops invaded the Soviet Union in 1941, the Soviets recruited Jaruzelski to be trained as an officer for a Polish Communist army. Communists gained control of Poland in 1945. Jaruzelski joined the Polish Communist Party in 1947. In 1955, he became the youngest general in the Polish Army. He became army chief of staff in 1965. Jaruzelski became a full member of the Communist Party's top policymaking body—the Politburo—in 1971. In the government, he was minister of defense from 1968 until 1983, and prime minister from 1981 until he became president.

Janusz Bugajski

Jarvis, Anna. See Mother's Day.

Jasmine, *JAS muhn* or *JAZ muhn,* is the name of about 200 species of flowering shrubs or vines that grow in tropical and subtropical regions. Some jasmines are *deciduous* and lose their leaves each autumn. Others are *evergreen* and remain green all year. The plants may grow upright or as a vine. The flowers are white, yellow, or pink and may be fragrant. Jasmines first grew in warm regions of the Eastern Hemisphere. Many gardeners now grow them in the Southern United States.

The *common white jasmine,* or *jessamine,* is a vine with dark green leaves and white flowers. The *Spanish jasmine* has larger flowers tinged with red underneath. In France, botanists graft the Spanish type on the common white species. This practice results in a bushy plant with large, fragrant blossoms. Oil from this plant and from the jessamine are used in perfumes. In China, people use jasmine to scent teas.


Perry D. Slocum, Animals Animals/Earth Scenes
Jasmines grow in tropical and subtropical regions.

Fred T. Davies, Jr.

Scientific classification. Jasmines belong to the olive family, Oleaceae. The scientific name for the common jasmine is *Jasminum officinale.* The Spanish jasmine is *J. officinale,* variety *grandiflorum.*

Jason was a hero in Greek mythology who led a band of men called the Argonauts. Their capture of the Golden Fleece—the wool of a golden ram—ranks among the most exciting adventures in mythology.

Jason was the son of Aeson, the king of the city of Iolkos. Pelias, Aeson's brother, seized the throne and forced the infant Jason and his mother to flee the city. After Jason grew up, he returned to Iolkos to claim his father's throne. To get rid of Jason, Pelias persuaded him to organize an expedition to capture the Golden Fleece from the distant land of Colchis.

For the expedition, Jason recruited about 50 heroes who became known as the Argonauts after their ship, the *Argo.* After many dangerous adventures, the Argonauts reached Colchis. Medea, the daughter of the king of Colchis, fell in love with Jason. With the help of Medea's magic powers, Jason captured the Golden Fleece and returned to Iolkos. John Hamilton

See also **Argonauts; Golden Fleece; Medea.**

Jasper is the name of a dark red variety of *chalcedony.* Chalcedony is the most common member of a group of quartz minerals that are *cryptocrystalline* (composed of very small fibers or rods). The red coloration of jasper usually indicates the presence of iron oxide.

Jasper is harder than a knife, and it can scratch glass. It takes a high polish and is used for mantels, pillars, and other fancy interior finishings. Fine grades of jasper are polished into gems. The most beautiful varieties come from Siberia, Greece, India, Turkey, and Poland.

Prehistoric people made arrowheads and tools from jasper and other related minerals. Jasper is mentioned in the Bible as a part of the breastplate of the Jewish High Priest (Exodus 39: 13). Ancient Greeks and Romans believed it could heal many illnesses and draw the poison from snakebites. John C. Butler

See also **Quartz; Gem** (picture).

Jasper National Park lies in the Rocky Mountains of western Alberta. It features magnificent mountain scenery, large glaciers, beautiful lakes and rivers, and abundant wildlife. The park covers about 2,688,000 acres (1,087,800 hectares).

A scenic highway called the Icefields Parkway winds through the mountains of Jasper National Park. From this highway, motorists can view such majestic peaks as Mount Athabasca and Mount Fryatt, both of which rise more than 11,000 feet (3,300 meters) above sea level. The Icefields Parkway connects the park to Banff National Park, which lies to the south. The Columbia Icefield, a vast sheet of glacial ice, is partly in Jasper and Banff national parks in Alberta, and partly in British Columbia. The ice field covers 125 square miles (325 square kilometers) and measures up to 1,198 feet (365 meters) deep. The Athabasca Glacier flows from the ice field.

Other attractions in Jasper National Park include a gorge called Maligne Canyon, which is 166 feet (51 meters) deep, and Maligne Lake, the largest glacially fed lake in North America. Maligne Lake is 17 miles (27 kilometers) long. Tourists also visit such sites in the park as Athabasca Falls, Medicine Lake, Miette Hot Springs, and an alpine area called the Whistlers.

Jasper National Park has large forests of such evergreen trees as firs, pines, and spruces. In summer, colorful wild flowers grow in the valley meadows. Animals in the park include bighorn sheep, black and grizzly bears, elk, golden eagles, mountain caribou, mountain goats, ptarmigans, and wolves.

Jasper National Park was established in 1907. About 2 million tourists visit it annually. The park offers a variety of activities, including fishing, hiking, and camping in summer and cross-country and downhill skiing in winter. It has about 1,600 campsites and 600 miles (965 kilometers) of trails. The resort town of Jasper in the central section of the park has hotels, motels, and other tourist facilities. Critically reviewed by Jasper National Park

See also **Canada** (picture: The Rocky Mountains).

Jaspers, Karl (1883-1969), was a leading German existentialist philosopher. He held that philosophy is not a set of doctrines, but an activity through which individuals can become aware of the nature of their own existence. Jaspers wrote many books about the great philosophers of the past. However, he was not primarily interested in the philosophers' conclusions, because he held that in philosophy all content and all conclusions are unimportant. Jaspers urged the study of other philosophers as a way to disturb and stimulate us so profoundly that we would be compelled to engage in the activity of philosophizing. See **Existentialism.**

Jaspers said that people constantly try to transcend their limitations through science, religion, and philosophy, but they experience failure or "shipwreck." Jaspers believed that people learn most about themselves in "limit situations" such as death, guilt, and failure. These situations reveal to people what their limitations are. The most complete statement of Jaspers' views appears in *Philosophy* (1932). He presented less complicated versions in *The Perennial Scope of Philosophy* (1948) and *The Way to Wisdom* (1949).

Jaspers was born in Oldenburg in Lower Saxony. He began teaching psychiatry at the University of Heidelberg in 1913, and became professor of philosophy at the university in 1921. In 1948, he became professor of philosophy at the University of Basel, in Switzerland.

Ivan Soll

Jaundice, *JAWN dihs,* is a yellowish discoloration of the skin, the tissues, and the whites of the eyes. It results from an increased amount of *bilirubin,* a reddish-yellow pigment, in the blood. Bilirubin is formed by the breakdown of *hemoglobin,* a pigment in red blood cells. The liver removes bilirubin from the blood stream and discharges it in the bile. Thus, jaundice results from either excessive production of bilirubin or reduced discharge



Dick Dietrich, FPG

Jasper National Park, in western Alberta, includes many scenic peaks, including Mount Edith Cavell, *above.*

of bile. Jaundice is not a disease but a symptom of various diseases. Jaundice in dogs, sheep, and other animals is sometimes called *yellows.*

Hemolytic jaundice results from an increased breakdown of red blood cells, which causes a greater concentration of bilirubin in the blood. *Hepatocellular jaundice* occurs when the liver is damaged so that it cannot secrete enough bile. Bilirubin collects in the body, causing jaundice. *Obstructive jaundice* is caused by the blocking of the bile ducts. Gallstones may cause such a blockage.

Many babies are born with *physiologic jaundice,* which occurs if the body cannot process all the bilirubin it produces. In most cases, this condition disappears within two weeks after birth. Charles S. Lieber

See also **Bile; Hepatitis; Liver** (Diseases of the liver); **Yellow fever.**

Java. See **Indonesia.**

Java fossils, *JAH vuh,* are the remains of a type of prehistoric human being that lived from about 1 million to 500,000 years ago, and perhaps as early as 1,600,000 years ago. The Java people belonged to an early human species called *Homo erectus* (erect human being). All evidence of the Java people's existence comes from fossils found in ancient stream and volcanic deposits on the island of Java. The first Java fossils were discovered in 1891 by Eugène Dubois, a Dutch physician.

The fossils show that the Java people had a large face with a low, sloping forehead and heavy ridges above the eyes. They had a thick skull and a massive jaw with huge teeth. Their brain was smaller than that of more modern types of human beings. The Java people probably stood slightly more than 5 feet (150 centimeters) tall.

Karl W. Butzer

Javelin, *JAV lihn* or *JAV uh lihn,* is a light, slender spear that is thrown for distance in track and field meets. In ancient times, warriors used the javelin as a weapon of war. Ancient hunters also used it.

The javelin used in track and field meets is made of metal with a metal tip. The length of a men's javelin may be from 2.6 to 2.7 meters (8 feet 6 $\frac{1}{2}$ inches to 8 feet 10 inches). Women use a javelin that is 2.2 to 2.3 meters (7 feet 3 inches to 7 feet 6 $\frac{1}{2}$ inches) long. The men's javelin must weigh at least 800 grams (28.4 ounces), and the women's javelin must weigh at least 600 grams (21.3 ounces).

A javelin thrower grasps the shaft on a cord grip, and runs with it down a runway to gather momentum. The thrower runs about 33.5 meters (110 feet) and then hurls the javelin overhand from behind a restraining line. It must fall within a marked sector with its point striking the ground first. Michael Takaha

For javelin championship figures, see the tables with **Track and field** and **Olympic Games.** See also **Spear.**

Javelina. See **Peccary.**

Jaw. See **Face.**

Jay refers to several species of a large family of birds that includes ravens, crows, and magpies. Jays are smaller than crows, and their feathers are usually more colorful. Jays eat insects, nuts, and seeds.

The best-known North American species is the *blue jay.* This bright blue, black, and white bird lives east of the Rocky Mountains. A crest of feathers sticks up on its head. The *Steller's jay,* the *pinyon jay,* and the *scrub jay* live in the Rocky Mountains and farther west. The Steller's jay is dark blue with a crested, black head. It is common in evergreen woods. The dull blue, crestless pinyon jay lives in dry areas. The crestless scrub jay has blue and gray feathers and dwells in oak woods and brushy areas. The scrub jay is also found in Florida.

The *gray jay* of Canada, the Northern United States,



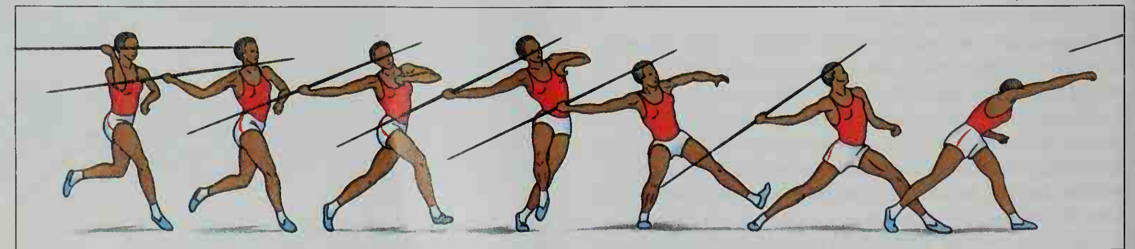
WORLD BOOK illustrations by John F. Eggert

Jays are related to ravens and crows but usually have more colorful feathers. Two species found in North America are the *scrub jay, top,* and the *green jay, bottom.*

Throwing a javelin

A thrower grasps the javelin by a cord grip and dashes down a runway. The javelin must be thrown over the shoulder or upper part of the throwing arm before the person reaches a restraining line. The javelin must land in a marked sector with its point striking the ground first.

WORLD BOOK illustration by Sarah Woodward



and the Rocky Mountains is gray and black. The *green jay,* which lives in southern Texas and parts of Mexico and Central and South America, is mostly green and gold and has a blue head. Other jays are found in other parts of North and South America, Europe, and Asia.

Donald F. Bruning

Scientific classification. Jays belong to the crow family, Corvidae. They make up the subfamily Garrulinae. The blue jay is *Cyanocitta cristata* and Steller's jay is *C. stelleri.* The pinyon jay is *Gymnorhinus cyanocephalus;* the scrub jay, *Aphelocoma coerulescens;* the gray jay, *Perisoreus canadensis;* and the green jay, *Cyanocorax yncas.*

See also **Bird** (pictures: Birds of urban areas; Birds' eggs); **Blue jay; Crow.**

Jay, John (1745-1829), was a distinguished statesman during the early days of the United States. He became the first chief justice of the United States under the U.S. Constitution. Jay's judgment and fairness and his courage in making unpopular decisions made him a valued diplomat and respected political figure.

Jay was born on Dec. 12, 1745, in New York City. He graduated from King's College (now Columbia University). Jay studied law and was admitted to the bar in 1768. He later became a New York delegate to the First and Second Continental Congresses. Jay was president of the Continental Congress from December 1778 until September 1779, when he became U.S. minister to Spain. He later helped negotiate the Treaty of Paris with the United Kingdom. This treaty, which ended the Revolutionary War in America, was signed in 1783. When Jay returned to the United States, he found that Congress had chosen him as secretary of foreign affairs. Jay's experiences as a diplomat in Europe convinced him that the United States needed a stronger central government. He thus joined Alexander Hamilton and James Madison in writing letters to newspapers urging ratification of the Constitution (see **Federalist, The**).



Chicago Historical Society

John Jay

In 1789, President George Washington appointed Jay chief justice of the United States. While still chief justice, Jay went to the United Kingdom in 1794 to negotiate a settlement of issues between the two nations. The Jay Treaty greatly improved U.S.-British relations (see **Jay Treaty**). In 1795, Jay was elected governor of New York. He served two terms and retired in 1801.

Elliott Robert Barkan

Jay Treaty, signed in 1794, resolved disputes that arose between the United States and the United Kingdom after the Revolutionary War in America ended. John Jay, chief justice of the United States, arranged the treaty in London.

Neither the United Kingdom nor the United States fully lived up to the Treaty of Paris, which ended the war in 1783. Americans did not pay their prewar debts to British subjects. They also refused to pay for wartime property losses of Americans who sympathized with Britain. The British refused to give up military posts on the U.S. side of the Great Lakes and to open their important West Indies markets to U.S. ships.

Relations between the United States and the United Kingdom almost reached the breaking point after France declared war on Britain in 1793. The United States remained neutral, but American ships took part in vital trade between France and French colonies. In 1794, an illegal British blockade of French colonies in the West Indies resulted in the capture of almost 300 U.S. ships and brought Britain and the United States close to war.

President George Washington sent Jay to London to negotiate a settlement. The negotiators signed the Jay Treaty on Nov. 19, 1794. The treaty gave the United States control of all military posts on its side of the Great Lakes and opened the British West Indies to U.S. ships under severe restrictions. It also provided that neutral commissions would decide possession of disputed areas on the Canada-U.S. border, the amount U.S. debtors owed the British, and the amounts the United Kingdom owed for losses in the blockade. But the treaty failed to stop British interference with U.S. ships, and it prohibited retaliation against such interference.

Jay and other members of the Federalist Party called the treaty the best possible arrangement considering Britain's superior strength. But the opposing Democratic-Republican Party insisted that Jay could have won better terms by threatening to cut off trade with the United Kingdom. The U.S. Senate narrowly passed the treaty, but only after Britain removed the section dealing with the British West Indies trade. Washington approved the treaty in August 1795. Jerald A. Combs

See also **Washington, George** (Relations with Britain; Cabinet scandal).

Jaycees are organizations that stress individual development through leadership training and civic involvement. About 90 countries and territories have Jaycees organizations. The organization in the United States is called the *United States Jaycees.* Jaycees learn to be leaders by working in community improvement programs. They sponsor programs on such matters as personal improvement, youth development, government affairs, health, safety, and foreign relations.

The United States Jaycees has about 5,000 local chapters and approximately 240,000 members. Membership is open to all people 21 through 39 years old. Until 1984, women could join the organization but could not vote or hold office. But in that year, the Supreme Court of the United States ruled in a Minnesota case that the Jaycees could not deny women voting privileges and other rights of full membership. As a result, the Jaycees dropped all restrictions against women.

The United States Jaycees was organized as the Young Men's Progressive Civic Association in 1915 in St. Louis. In 1916, the name was changed to Junior Citizens. A national organization was formed in 1920, and the name became the Junior Chamber of Commerce. It became known as the United States Jaycees in 1965. Headquarters are in Tulsa, Oklahoma.

Junior Chamber International, the worldwide Jaycees organization, has more than 400,000 members. It was founded in 1944 and has headquarters in Coral Gables, Florida. Critically reviewed by the United States Jaycees

Jayhawkers. See Kansas (introduction).




© David Redfern, Retna

The Count Basie Band



© John Bellissimo, LGI

The Modern Jazz Quartet



© Gary Gershoff, Retna

Pianist Marcus Roberts

Jazz is a popular kind of music that originated in America. It may be performed by a large group called a big band, *top;* a small group called a combo, *above left;* or a soloist, *above right.*

Jazz

Jazz is a kind of music that has often been called the only art form to originate in the United States. The history of jazz began in the late 1800's. The music grew from a combination of influences, including black American music, African rhythms, American band traditions and instruments, and European harmonies and forms. Much of the best jazz is still written and performed in the United States. But musicians from many other countries are making major contributions to jazz. Jazz was actually widely appreciated as an important art form in Europe before it gained such recognition in the United States.

One of the key elements of jazz is *improvisation*—the ability to create new music spontaneously. This skill is the distinguishing characteristic of the genuine jazz musician. Improvisation raises the role of the soloist from just a performer and reproducer of others' ideas to a composer as well. And it gives jazz a fresh excitement at each performance.

The contributor of this article is Frank Tirro, Professor of Music at Yale University and the author of Jazz: A History.

Another important element of jazz is *syncopation.* To syncopate their music, jazz musicians take patterns that are even and regular and break them up, make them uneven, and put accents in unexpected places.

The earliest jazz was performed by black Americans who had little or no training in Western music. These musicians drew on a strong musical culture from black life. As jazz grew in popularity, its sound was influenced by musicians with formal training and classical backgrounds. During its history, jazz has absorbed influences from the folk and classical music of Africa, Asia, and other parts of the world. The development of instruments with new and different characteristics has also influenced the sound of jazz.

The sound of jazz

Jazz may be performed by a single musician, by a small group of musicians called a *combo,* or by a *big band* of 10 or more pieces. A combo is divided into two sections: a solo front line of melody instruments and a back line of accompanying instruments called a *rhythm section.* The typical front line consists of one to five brass and reed instruments. The rhythm section usually

consists of piano, bass, drums, and sometimes an acoustic or electric guitar. The front-line instruments perform most of the solos. These instruments may also play together as ensembles. A big band consists of reed, brass, and rhythm sections.

The rhythm section in a combo or big band maintains the steady beat and decorates the rhythm with syncopated patterns. It also provides the formal structure to support solo improvisations. The drums keep the beat steady and add interesting rhythm patterns and syncopations. The piano—or sometimes a guitar—plays the chords or harmonies of the composition in a rhythmic manner. The bass outlines the harmonies by sounding the *roots,* or bottom pitches, of the chords, on the strong beats of each measure. Any of the rhythm instruments, especially the piano, may also solo during a performance.

The brass. The principal brass instruments of jazz are the trumpet, the cornet, and the slide trombone. But the French horn, the valve trombone, the baritone horn, the flügelhorn, and even electronic trumpets have been used in jazz performances.

The cornet and trumpet are melody instruments of identical range. But the cornet is usually considered more mellow and the trumpet more brassy. Most jazz performers today use the trumpet. The slide trombone blends with the trumpet. The typical brass section of a big band consists of four or five trumpets and three trombones.

Jazz trumpeters and trombonists frequently use objects called *mutes* to alter or vary the sound of their instrument. The player plugs the mute into the *bell* (flared end) of the instrument or holds it close to the opening of the bell.

The reeds. The clarinet and saxophone are the principal reed instruments of jazz. The flute, though technically a woodwind, is often classified as a reed in jazz. It is used especially as a solo instrument.

Both the clarinet and saxophone families range from soprano to bass. Only the soprano clarinet has been universally used in jazz. In early jazz, it was an equal member of the front line with the trumpet or cornet and the trombone. The clarinet eventually gave way to the saxophone, which is capable of much greater volume. Four members of the saxophone family—the soprano, alto, tenor, and baritone saxophones—are regularly employed in jazz. A typical reed section in a big band is made up of one or two alto saxophones, two tenors, and a baritone. Musicians often "double" by playing two or more reed instruments, such as an alto saxophone and a tenor saxophone, during a performance.



Duncan P. Schiedt

A traditional jazz band consists of a *front line* of a trumpet, trombone, and clarinet or saxophone, and a *rhythm section* of drums, a bass, a piano, and often a guitar or banjo. Jelly Roll Morton, *at the piano,* led this 1920's jazz group.

Drums of various types were familiar to black Americans dating back to the days of slavery. These early percussion instruments played a vital role in the development of jazz.

As jazz grew, the drum set evolved until one drummer could play more than one percussion instrument at the same time. The invention of a foot-operated bass-drum pedal and pedal-operated cymbals freed the drummer's hands to play other percussion instruments, such as snare drums, tom-toms, cowbells, and wood blocks. Another important invention was a wire brush that the drummer used in place of a drumstick or mallet to produce a more delicate sound on drums and cymbals. Today, a jazz drummer may use electronic percussion instruments that can create an almost infinite variety of sounds and reproduce them accurately at virtually any volume.

The piano. Since the earliest days of jazz, the piano has served both as a solo instrument and as an ensemble instrument that performs as part of the rhythm section. Today, other keyboard instruments, including electronic organs, electric pianos, and synthesizers controlled by a keyboard, may substitute for pianos.

The guitar, like the piano, is capable of playing both chords and melodies. In the early days of jazz, these two instruments, along with the banjo, were often substituted for one another. Later, however, the guitar and banjo were most often used in the rhythm section in addition to the piano. The banjo eventually disappeared from almost all later forms of jazz. Jazz musicians have used the acoustic guitar in ensembles and as a solo instrument since jazz's earliest days. The electric guitar emerged in jazz in the late 1930's to add sustained tones, greater volume, and a new assortment of sounds and effects to jazz.

The bass plays the roots of the harmonies. The musician normally plucks a string bass. The rhythm section may substitute a brass bass, such as a tuba or Sousaphone. When an electronic organ is used, the organist can play the bass part with foot pedals on the instrument. Electric bass guitars have been incorporated into some jazz ensembles, primarily those that play a "fusion" of jazz and rock music.

Other instruments. Nearly every Western musical instrument and many non-Western instruments have been used in jazz at one time or another. The *vibraphone,* an instrument similar to the xylophone, and the violin deserve special mention. The vibraphone has been especially popular in combos. The violin has had only a few notable soloists in jazz, possibly because its volume could not match the power of the trumpet or trombone in ensemble. But throughout jazz history there have been some violinists who have skillfully adapted this basically classical music instrument to jazz. Modern amplification and sound manipulation devices

have given the violin new and exciting possibilities as a jazz instrument.

The history of jazz

The roots of jazz. The folk songs and plantation dance music of black Americans contributed much to early jazz. These forms of music occurred throughout the Southern United States during the late 1800's.

Ragtime, a musical style that influenced early jazz, emerged from the St. Louis, Mo., area in the late 1890's. It quickly became the most popular music style in the United States. Ragtime was an energetic and syncopated variety of music, primarily for the piano, that emphasized formal composition. See **Ragtime**.

The blues is a form of music that has always been an important part of jazz. The blues was especially widespread in the American South. Its mournful scale and simple repeated harmonies helped shape the character of jazz. Jazz instrumentalists have long exploited the blues as a vehicle for improvisation. See **Blues**.

Early jazz. Fully developed jazz music probably originated in New Orleans at the beginning of the 1900's. New Orleans style jazz emerged from the city's own musical traditions of band music for black funeral processions and street parades. Today, this type of jazz is sometimes called classic jazz, traditional jazz, or Dixieland jazz. New Orleans was the musical home of the first notable players and composers of jazz, including cornetists Buddy Bolden and King Oliver, cornetist and trumpeter Louis Armstrong, saxophonist and clarinetist Sidney Bechet, and pianist Jelly Roll Morton.

Jazz soon spread from New Orleans to other parts of the country. Fate Marable led a New Orleans band that played on riverboats traveling up and down the Mississippi River. King Oliver migrated to Chicago, and Jelly Roll Morton performed throughout the United States. Five white musicians formed a band in New Orleans, played in Chicago, and traveled to New York City, calling themselves the Original Dixieland Jass Band (the spelling was soon changed to "Jazz"). This group made the earliest jazz phonograph recordings in 1917. Mamie Smith recorded "Crazy Blues" in 1920, and recordings of ragtime, blues, and jazz of various kinds soon popularized the music to a large and eager public.

The 1920's have been called *the golden age of jazz* or *the jazz age.* Commercial radio stations, which first appeared in the 1920's, featured live performances by the growing number of jazz musicians. New Orleans, Memphis, St. Louis, Kansas City, Chicago, Detroit, and New York City were all important centers of jazz.

A group of Midwest youths, many from Chicago's Austin High School, developed a type of improvisation and arrangement that became known as "Chicago style" jazz. These musicians included trumpeters Jimmy McPartland and Muggsy Spanier; cornetist Bix Beiderbecke; clarinetists Frank Teschemacher, Pee Wee Russell, Mezz Mezzrow, and Benny Goodman; saxophonists Frankie Trumbauer and Bud Freeman; drummers Dave Tough, George Wettling, and Gene Krupa; and guitarist Eddie Condon. They played harmonically inventive music, and the technical ability of some of the players, especially Goodman, was at a higher level than that of many earlier performers.

In New York City, James P. Johnson popularized a new musical style from ragtime called *stride piano.* In stride piano, the left hand plays alternating single notes and chords that move up and down the scale while the right hand plays solo melodies, accompanying rhythms, and interesting chordal passages. Johnson strongly influenced other jazz pianists, notably Count Basie, Duke Ellington, Art Tatum, Fats Waller, and Teddy Wilson.

Fletcher Henderson was the first major figure in big band jazz. In 1923, he became the first leader to organize a jazz band into sections of brass, reed, and rhythm instruments. His arranger, Don Redman, was the first to master the technique of scoring music for big bands. Various Henderson bands of the 1920's and 1930's included such great jazz instrumentalists as Louis Armstrong and saxophonists Benny Carter and Coleman Hawkins.

Armstrong made some of his most famous recordings with his own Hot Five and Hot Seven combos from 1925 to 1928. These recordings rank among the masterpieces of jazz, along with his duo recordings of the same period with pianist Earl "Fatha" Hines. Armstrong also became the first well-known male jazz singer, and



From the collection of Dr. Edmond Souchon

Bix Beiderbecke, *second from right,* was one of the first famous jazz musicians. Beiderbecke, a cornet player, made some of the earliest important jazz recordings with a group called the Wolverines, *above,* in a warehouse recording studio in 1924.



UPI/Bettmann

Duke Ellington, *at the piano,* has been called the single most significant person in the history of jazz. He led a band almost continuously from the early 1920's until his death in 1974.



Down Beat Magazine

Benny Goodman, *third from left,* was a leading bandleader and clarinet player of the swing era. He also formed several notable small groups. This sextet included two musicians who were pioneers on their instruments—vibraphonist Lionel Hampton and electric guitarist Charlie Christian. Goodman was one of the first white musicians to integrate his band.

popularized *scat singing*—that is, wordless syllables sung in an instrumental manner.

During the late 1920's and early 1930's, jazz advanced from relatively simple music played by performers who often could not read music to a more complex and sophisticated form. Among the musicians who brought about this change were saxophonists Benny Carter, Coleman Hawkins, and Johnny Hodges; the team of violinist Joe Venuti and guitarist Eddie Lang; and pianist Art Tatum. Many people consider Tatum the most inspired and technically gifted improviser in jazz history.

The swing era flourished from the mid-1930's to the mid-1940's. In 1932, Duke Ellington recorded his composition "It Don't Mean a Thing If It Ain't Got That Swing." "Swing" was soon adopted as the name of the newest style of jazz. Swing emphasizes four beats to the bar. Big bands dominated the swing era, especially those of Count Basie, Benny Goodman, and Duke Ellington.



Down Beat Magazine

Woody Herman was a popular bandleader for more than 40 years. Many musicians who joined his band later became noted soloists with their own groups. One of the most famous was tenor saxophonist Stan Getz, seated next to the guitar player.

Benny Goodman became known as the "King of Swing." Starting in 1934, Goodman's bands and combos brought swing to nationwide audiences through ballroom performances, recordings, and radio broadcasts. Goodman was the first white bandleader to feature black and white musicians playing together in public performances. In 1936, he introduced two great black soloists—pianist Teddy Wilson and vibraphonist Lionel Hampton. Until then, racial segregation had held back the progress of jazz and of black musicians in particular. In 1938, Goodman and his band, and several guest musicians, performed a famous concert at Carnegie Hall in New York City. Their performance was one of the first by jazz musicians in a concert hall setting.

Other major bands of the swing era included those led by Benny Carter, Bob Crosby, Jimmy Dorsey, Tommy Dorsey, Woody Herman, Earl Hines, Andy Kirk, Jimmie Lunceford, Glenn Miller, Artie Shaw, Chick Webb, and, toward the end of the period, Stan Kenton. The bands in Kansas City, Mo., especially the Count Basie band, had a distinctive swing style. These bands relied on the 12-bar blues form and *riff* backgrounds, which consisted of repeated simple melodies. They depended less heavily on written arrangements, allowing more leeway for rhythmic drive and for extended solo improvisations.

Boogie-woogie was another jazz form that became popular during the 1930's. Chiefly a piano style, it used eight beats to the bar instead of four. Boogie-woogie featured the traditional blues pattern for most themes. The music had an intense quality that created excitement through the repetition of a single phrase. Albert Ammons, Pete Johnson, Meade Lux Lewis, and Pinetop Smith were among its most important artists.

Jazz vocalists came into prominence during the swing era, many singing with big bands. Many fine jazz singers emphasized popular songs. These singers included Mildred Bailey, Ella Fitzgerald, Billie Holiday, Nat "King" Cole, Carmen McRae, and Sarah Vaughan. Blues singing at its best can be heard in recordings by Jimmy Rushing, Jack Teagarden, Joe Turner, and Dinah Washington. In addition to singing, Nat "King" Cole was a superb jazz pianist and Jack Teagarden was a great jazz trombonist.



Duncan P. Schiedt

Bebop revolutionized jazz in the 1940's. Alto saxophonist Charlie Parker, *left,* was a leader in the movement. He teamed with trumpeter Miles Davis, *right,* in an important bebop combo.

Bebop. In the early 1940's, a group of young musicians began experimenting with more complicated chord patterns and melodic ideas in a combo setting. The group included trumpeter Dizzy Gillespie, alto saxophonist Charlie Parker, pianists Bud Powell and Thelonious Monk, and drummers Kenny Clarke and Max Roach. The style they developed became known as *bebop* or *bop.*

Most bop musicians had an exceptional technique. They played long, dazzling phrases with many notes, difficult intervals, unexpected breaks, and unusual turns in melodic direction. On slower tunes, they displayed a keen ear for subtle changes of harmony. Only extremely skilled musicians were able to play bebop well, and only sophisticated listeners at first appreciated it.

In bebop performances, musicians usually played an intricate melody, followed with long periods of solo improvisation, and restated the theme at the end. The bassist presented the basic beat for the group by plucking a steady, moving bass line. The drummer elaborated the beat with sticks or brushes on cymbals, snare drum, and tom-tom. The bass drum was reserved for unexpected accents called "bombs." The pianist inserted complex chords at irregular intervals to suggest, rather than state, the complete harmonies of the piece.

Hard bop. Bebop was followed in the 1950's by *hard bop,* or *funky,* jazz. This form emphasized some of the traditional values of jazz derived from gospel and blues music, including rhythmic drive, uninhibited tone and volume, and freedom from restricting arrangements. The hard bop leaders were drummer Art Blakey and pianist Horace Silver. Blakey led a combo called the Jazz Messengers from the mid-1950's until his death in 1990. The Jazz Messengers served as a training ground for many of the greatest soloists in jazz history. Trumpeter Clifford Brown and drummer Max Roach were coleaders of another outstanding hard bop combo.

Cool jazz originated in the works of such musicians as tenor saxophonist Lester Young, who starred with Count Basie, and guitarist Charlie Christian, who played with Benny Goodman. In the late 1930's and early 1940's, these musicians made changes in the sound and style of jazz improvisation. For example, they softened the tones of their instruments, used syncopation more subtly, and played with a more even beat.

In 1948, tenor saxophonist Stan Getz recorded a slow, romantic solo of Ralph Burns's composition "Early Autumn" with the Woody Herman band. This work profoundly influenced many younger musicians. In 1949 and 1950, a group of young musicians that included trumpeter Miles Davis, alto saxophonist Lee Konitz, baritone saxophonist Gerry Mulligan, and arranger Gil Evans recorded several new compositions. These recordings emphasized a lagging beat, soft instrumental sounds, and unusual orchestrations that included the first successful use of the French horn and the tuba in modern jazz. The recordings, with Davis as leader, were later released as "The Birth of the Cool."

During the 1950's, many combos became identified with the cool movement. Some of the most successful combos were the Gerry Mulligan Quartet, the Modern Jazz Quartet, and the Dave Brubeck Quartet.

The spread of jazz. In the 1940's and 1950's, the sophisticated forms of bebop and cool jazz began to gain wide acceptance among intellectuals and college students. Jazz concerts became popular. Groups of jazz stars made a series of international tours called Jazz at the Philharmonic. The international growth of jazz resulted in many successful overseas tours by U.S. bands and combos.

The introduction of the $33\frac{1}{3}$ rpm long-playing (LP) record, which was first produced commercially in 1948, also helped spread the popularity of jazz. For 30 years, jazz recordings had been limited to 78 rpm records that



Culver

Louis Armstrong was probably the most popular jazz artist in history. The trumpeter and singer appeared in several motion pictures, including the 1950 film *High Society, above.*



Culver

Dave Brubeck, a classically trained pianist, led one of the most popular jazz quartets of the 1950's. The combo featured the lyrical solos of alto saxophonist Paul Desmond.

restricted performances to about 3 minutes in length. The LP allowed recorded performances to run many minutes. The LP also permitted a number of shorter performances to be issued on a single record.

During the 1950's, musicians in other countries began to improve greatly as jazz performers as they were exposed to performances by American musicians through recordings and concerts. Sweden, France, Germany, Japan, and other countries developed players and composers whose work compared favorably with that of the leading Americans. The first foreign jazz musicians to influence Americans were Belgian-born guitarist Django Reinhardt in the late 1930's, and George Shearing, a blind, English-born pianist who immigrated to the United States in 1947.

In 1954, the first large American jazz festival was held at Newport, Rhode Island. Since then, annual festivals also have been held in Monterey, California; New York City; Chicago; Nice, France; Montreux, Switzerland; Warsaw, Poland; Berlin, Germany; and many other locations throughout the world. These festivals have featured almost all of the most popular jazz musicians and have introduced many extended concert works.

New directions. Beginning in the 1950's, jazz became even more experimental. Jazz music began to feature nontraditional instruments, such as French horn and bass flute. Jazz musicians began to take an interest in non-Western music, especially the *modes* (different arrangements of scales), melodic forms, and instruments of Africa, India, and the Far East.

In the late 1950's, John Lewis, musical director of the Modern Jazz Quartet, worked with classical musician and composer Gunther Schuller to write and play orchestral works that combined elements of modern jazz and classical concert music. Stan Kenton also played this so-called *third stream music* when he toured the United States with a 40-piece orchestra.

Also during this period, pianist George Russell developed a jazz theory of modes. In 1959, the Miles Davis combo, with pianist Bill Evans and saxophonists John Coltrane and Cannonball Adderley, recorded compositions and improvised solos based on modes rather than on patterns of chords.

In 1960, saxophonist Ornette Coleman reshaped the thinking of younger jazz musicians when he recorded the album *Free Jazz* with a double quartet. In this recording, Coleman discarded harmony, melody, and regular rhythms. He substituted unstructured improvisation played *atonally* (in no definite key). Pianist Cecil Taylor and bassist Charles Mingus conducted similar atonal experiments.

In the 1960's, the influence of the music of India entered jazz through the adaptations of John Coltrane. Jazz musicians also began to use more unusual meters, such as $\frac{5}{4}$, $\frac{7}{4}$, and $\frac{9}{8}$.

Fusion. In the 1970's, many musicians blended jazz and rock music into *fusion jazz.* Fusion combined the melodic and improvisational aspects of jazz with the rhythms and instruments of rock. Electronic music played an important part in fusion. Jazz pianists began exploring the increased sound potential of synthesizers. Horn and string players began to use electronics to intensify, distort, or multiply their sounds. Many well-known jazz musicians gained new popularity by playing fusion. Some of the best-known fusion musicians were guitarist George Benson, trumpeters Donald Byrd and Miles Davis, pianist Herbie Hancock, and two combos, Weather Report and the Mahavishnu Orchestra.

At the same time, many veteran jazz musicians retained their popularity by leading groups that played in the swing, bebop, and cool styles. These leaders included Stan Getz, Dizzy Gillespie, Woody Herman, Gerry Mulligan, and Oscar Peterson.



© John Bellissimo, LGI

Fusion, a form of jazz with rock rhythms, became popular in the 1970's. Miles Davis, *third from right,* who earlier pioneered in bebop and cool jazz, led several successful fusion combos.

Recent developments. During the 1980's, a number of young jazz musicians returned to *mainstream* jazz. Mainstream jazz includes elements of the swing, cool, and bebop styles. The most widely acclaimed young musician of the 1980's was trumpeter Wynton Marsalis, a performer of both jazz and classical music. Marsalis plays with brilliant technique and tone. He and his brother, saxophonist Branford Marsalis, have led excellent hard bop combos.

Many young musicians continued to forge ahead with fusion groups. Two of the most respected fusion artists are the brothers trumpeter Randy Brecker and saxophonist Michael Brecker. Jane Ira Bloom also displays a mastery of the soprano saxophone and the synthesizer.

In the 1990's, jazz was dominated by a blend of older values and more modern styles. Many musicians favored acoustical over electronic instruments, formal structure over total freedom, and a sense of history over harsh modernity. Music of older artists continued to gain respect and followers. For example, bands devoted to the music of Count Basie and Charles Mingus became popular. Veteran musicians, such as trombonist J. J. Johnson and saxophonists Joe Henderson and Sonny Rollins, found new audiences among younger listeners.

The young musicians who energized jazz in the 1980's had become establishment figures by the end of the 1990's. They included trumpeters Roy Hargrove and Wynton Marsalis, guitarist Pat Metheny, trombonists Steve Turré and Ray Anderson, and pianist Chick Corea. A younger group of musicians also gained popularity, focusing on "straight-ahead jazz" that reflected earlier mainstream styles. They included saxophonists Joshua Redman and Donald Harrison, bassist Christian McBride, trumpeter Terence Blanchard, and pianist Marcus Roberts. At the same time, the free jazz style of the 1960's continued strong throughout the 1990's in the playing of saxophonists Steve Lacy and Roscoe Mitchell, pianist John Zorn, and their young followers.

Today, jazz continues to feature a variety of styles. Many musicians play in historic styles, such as swing and bebop. Others seek a more experimental approach. For example, the Art Ensemble of Chicago blends free jazz, African costumes and makeup, exotic instruments, and surprise techniques into theatrical musical events. Ornette Coleman's group, called Prime Time, mixes free and fusion jazz in new and interesting ways.

Electronics technology is gaining a greater role in jazz music. Such young jazz composers as Michael Daugherty are demonstrating that live musicians can interact creatively with computer-generated sound. Some artists have attempted new fusion sounds that blended jazz with such forms as rap music. Frank Tirro

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Exciting young musicians increased the popularity of jazz in the 1990's. These musicians included trumpeter Terence Blanchard and saxophonist Donald Harrison.

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Questions

What is *third stream music?*
What types of music influenced the early sound of jazz?
What is *improvisation?*
What is *stride piano?*
How did Fletcher Henderson influence jazz history?
Which instruments make up the front line of a combo? The back line?
How did the invention of the long-playing record affect jazz?
What is *bebop? Hard bop?*
How have developments in electronics changed jazz?
What are the characteristics of *cool jazz?*

Additional resources

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Jazz Age. See Roaring Twenties.

Jean Baptiste de la Salle, *zhahn BA TEEST,* **Saint** (1651-1719), a French priest, founded the Institute of Brothers of the Christian School, a Roman Catholic religious order devoted to teaching boys. The order is commonly known as the Christian Brothers. His schools stressed practical skills and religious instruction rather than classical education. La Salle also pioneered teacher training colleges. His books on piety and on teaching methods were widely read.

La Salle was born in Reims. He was ordained in 1678. La Salle was struck by the ignorance of the lower classes. He tried to train teachers in Reims but became convinced that only a religious order of brothers could have the dedication to effectively educate the poor. La Salle set up his first community of Christian Brothers in 1684. At the time of his death, communities had been set up throughout France and in Rome. La Salle's feast day is April 7. John Patrick Donnelly

Jeanne d'Arc. See Joan of Arc, Saint.

Jeanneret-Gris, Charles Édouard. See Le Corbusier.

Jeans are trousers that are usually made of *denim,* a heavy, coarse cotton cloth with a diagonal weave. Jeans are made in a variety of styles and colors. Men, women, boys, and girls in almost every country wear jeans. The word *jeans* comes from Gênes, the French word for Genoa, a port in Italy. In the Middle Ages, working men there wore sturdy cotton pants that were the forerunners of jeans.

The first jeans were made in the United States during the 1850's by Levi Strauss, an immigrant from Bavaria (now part of Germany). Strauss arrived in California during the Gold Rush and started a business manufacturing sturdy work pants for gold miners. He used brown canvas cloth at first but later made the pants of a tough cotton fabric from Nimes, France. The word *denim* comes from the French phrase *de Nimes,* meaning *from Nimes.* Strauss dyed the denim a deep blue called *indigo,* which became the traditional color for jeans. In 1873, Strauss and a tailor named Jacob W. Davis took out a patent for trousers strengthened with copper rivets at the pockets and other points of strain. See Strauss, Levi.

For decades, jeans were worn chiefly by outdoor laborers, such as farmers and cowboys. In the 1940's, young people began to wear blue jeans for casual occasions. In the 1960's, jeans became important to a youth movement called the *counterculture.* Members of the counterculture rejected the lifestyles of the middle class. They wore jeans to identify themselves with poor working people.

In the 1970's, expensive *designer jeans* became a status symbol. These jeans had a label on the outside bearing the designer's name, such as Calvin Klein or Gloria Vanderbilt. Valerie Steele

Jeddah. See Jidda.

Jeep is a small all-purpose vehicle used by the armed forces of many countries. It was first used by the United States military during World War II (1939-1945). The term *jeep* may come from the letters *G.P.,* the initials for *general purpose* vehicle. When capitalized, the word *Jeep* is a trademark for a civilian automotive vehicle that was patterned after the armed forces jeep.

The United States armed forces jeep is called the "Hummer." This name may come from the initials H.M.M.W.V., which stand for *high-mobility multipurpose wheeled vehicle.* The Hummer is about 15 feet (4.6 meters) long and 85 inches (216 centimeters) wide. It has an eight-cylinder diesel engine and four-wheel drive. Its maximum speed is about 65 miles (105 kilometers) per hour. A Hummer can carry four people. It can haul loads weighing as much as 2,500 pounds (1,100 kilograms). Jeeps are reliable vehicles and can move rapidly over rough terrain. Armed forces jeeps also serve as platforms for various weapons, such as machine guns and small missiles. Kenneth S. Brower

See also Automobile (picture: a Jeep).

Jeffers, Robinson (1887-1962), was an American poet. He was born John Robinson Jeffers in Pittsburgh, Pennsylvania, where his father was a professor at Western Theological Seminary. As a boy, Jeffers studied in Europe at several boarding schools. In 1905, he graduated—at the age of 18—from Occidental College in Los Angeles, having mastered many classical and modern languages. In 1914, Jeffers settled with his wife, Una, in Carmel, California. There, he found dramatic inspiration for his feelings about humanity, and an endless source of symbols to express his feelings.

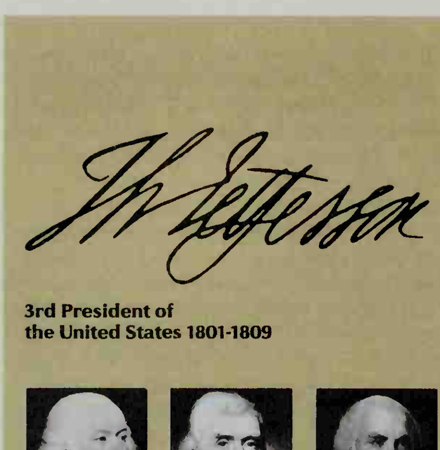
Jeffers won fame with *Tamar* (1924), *Roan Stallion* (1925), *Dear Judas* (1929), and later collections of verse, as well as a powerful adaptation of Euripides's tragedy *Medea* (1946). But he was indifferent to success and fashionable trends in poetry.

Jeffers regarded human beings as creatures of no significance, largely responsible for their own misery and engaged in a vain struggle against death and darkness. However, a contrasting strain in Jeffers's philosophy qualified his pessimism. Although the human race is doomed, Jeffers thought, a person may find some peace in the stoic wisdom of the past. And although nature is indifferent to human fate, one person can appreciate nature's grandeur. Jeffers's severe view of life may keep him from becoming widely popular. But Jeffers's mastery of long narrative forms and the extended blank verse line gave him a firm place in modern poetry.
Bonnie Costello

Jefferson, Joseph (1829-1905), became one of the most popular and respected American comic actors of the 1800's. He gained immense popularity for his performance in the title role of *Rip Van Winkle.* Jefferson first appeared in the play in London in 1865. He began performing it in the United States in 1866 and spent the next 38 years touring the country as Rip. The actor collaborated with the Irish-American playwright Dion Boucicault on the play, which was a dramatization of a short story by Washington Irving.

Jefferson was born in Philadelphia. He made his stage debut at the age of 3. He performed in over 100 plays before he began starring in *Rip Van Winkle.* His *Autobiography* (1890) provides a vivid account of the United States theater in the 1800's. Don B. Wilmeth

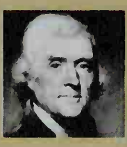
Jefferson, State of, was the name of a proposed state in the United States. In 1915, the Texas legislature suggested that the Panhandle, or northwestern part of Texas, become the State of Jefferson. The proposal was discussed but did not become law. The discussion disclosed that the law which admitted Texas to the Union gave the state the right to divide itself, with the consent of Congress. Dan L. Flores



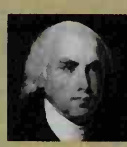
3rd President of the United States 1801-1809



Adams
2nd President
1797-1801
Federalist

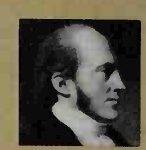


Jefferson
3rd President
1801-1809
Democratic-Republican



Madison
4th President
1809-1817
Democratic-Republican





Aaron Burr
Vice President
1801-1805



George Clinton
Vice President
1805-1809

Detail of an oil portrait on canvas (1800) by Rembrandt Peale; © White House Historical Association (photography by the National Geographic Society)

Jefferson, Thomas (1743-1826), is best remembered as a great President and as the author of the Declaration of Independence. He also won lasting fame as a diplomat, a political thinker, and a founder of the Democratic Party.

Jefferson's interests and talents covered an amazing range. He became one of the leading American architects of his time and designed the Virginia Capitol, the University of Virginia, and his own home, Monticello. He greatly appreciated art and music and tried to encourage their advancement in the United States. He arranged for the famous French sculptor Jean Houdon to come to America to make a statue of George Washington. Jefferson also posed for Houdon and for the famous American portrait painter Gilbert Stuart. Jefferson also enjoyed playing the violin in chamber music concerts.

In addition, Jefferson served as president of the American Philosophical Society, an organization that encouraged a wide range of scientific and intellectual research. Jefferson invented a decoding device, a lap desk, and an improved type of moldboard plow. His collection of more than 6,400 books became a major part of the Library of Congress. Jefferson revised Virginia's laws and founded its state university. He developed the decimal system of coinage that allows Americans to keep accounts in dollars and cents. He compiled a *Manual of Parliamentary Practice* and prepared written vocabularies of Indian languages. Jefferson also cultivated one of the finest gardens in America.

Jefferson did not consider himself a professional politician. Instead, he regarded himself as a public-spirited citizen and a broad-minded, practical thinker. He preferred his family, his books, and his farms to public life. But he spent most of his career in public office and made his greatest contribution to his country in the field of politics.

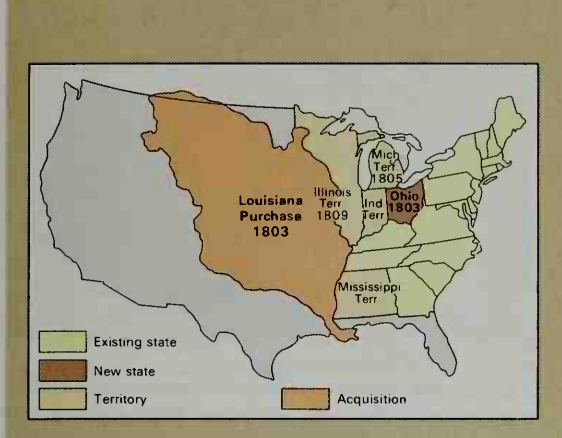
The tall, red-haired Virginian believed that "those who labor in the earth are the chosen people of God." His ideal society was a nation of landowning farmers living under as little government as possible. The term *Jeffersonian democracy* refers to such an ideal and was based on Jefferson's faith in self-government. He trusted the majority of people to govern themselves and wanted to keep the government simple and free of waste. Jefferson loved liberty in every form, and he worked for freedom of speech, press, religion, and other civil liberties. Jefferson strongly supported the addition of the Bill of Rights to the Constitution of the United States.

Jefferson molded the American spirit and mind. Every later generation has turned to him for inspiration. Through about 40 years of public service, he remained faithful to his vow of "eternal hostility against every form of tyranny over the mind of man."

During Jefferson's two terms as President, the United States almost doubled in area with the purchase of the vast Louisiana Territory. America preserved its hard-won neutrality while France, led by Napoleon's armies, battled most of Europe. Congress passed a law banning the slave trade. It took travelers two days to go from New York City to Philadelphia by stagecoach. But the first successful voyage of Robert Fulton's steamboat, which became famous as the *Clermont,* signaled a promising new era in the history of transportation.

Early life

Boyhood. Thomas Jefferson was born on April 13, 1743, at Shadwell, the family farm in Goochland (now Albemarle) County, Virginia. (The date was April 2 by the



The United States doubled its area in 1803 with the Louisiana Purchase. Ohio became the 17th state in 1803. Congress extended the Mississippi Territory and created the Michigan and Illinois territories.

The world of President Jefferson

War with Tripoli, a Barbary State of northern Africa, broke out in 1801 after Barbary sea raiders attacked American shipping. The United States won the war in 1805.
The Louisiana Purchase, territorial agreement with France, doubled the size of the United States in 1803.
Dalton's Theory of the Atom, one of the foundations of chemistry, was developed in 1803. English chemist John Dalton proposed that all matter was made up of atoms.
Marbury v. Madison, a landmark Supreme Court ruling, established the court's right to declare laws unconstitutional.
The Lewis and Clark Expedition crossed the Rocky Mountains to the Pacific Ocean and mapped much of the vast northwestern wilderness. The explorers left in 1804 and returned in 1806.
Napoleon crowned himself emperor of the French in 1804.
The Steam Age revolutionized transportation. Richard Trevithick, an English engineer, invented the steam-powered locomotive in 1804. American inventor Robert Fulton began the first commercially successful steamboat service in 1807.
The Romantic Movement dominated literature. Sir Walter Scott's *The Lay of the Last Minstrel* (1805) and William Wordsworth's *Poems in Two Volumes* (1807), stressed imagination, passionate feeling, and unusual experiences.
The Embargo Act of 1807 prohibited ships from entering or leaving U.S. harbors. It sought to end interference with U.S. shipping by Britain and France, who were at war.
The importation of slaves was prohibited by Congress in 1808.

WORLD BOOK map

calendar then in use.) He was the third child in the family and grew up with six sisters and one brother. Two other brothers died in infancy. His father, Peter Jefferson, had served as surveyor, sheriff, colonel of militia, and member of the House of Burgesses (see **House of Burgesses**). Thomas' mother, Jane Randolph Jefferson, came from one of the oldest families in Virginia.

Thomas developed the normal interests of a country boy—hunting, fishing, horseback riding, and canoeing. He also learned to play the violin and to love music.

Jefferson was 14 years old when his father died. As the oldest son, he became head of the family. He inherited more than 2,500 acres (1,010 hectares) of land and at least 20 slaves. His guardian, John Harvie, managed the estate until Jefferson was 21.

Education. Thomas began his studies under a tutor. At age 9, he went to live with a Scottish clergyman, who taught him Latin, Greek, and French. After his father died, Thomas entered the school of James Maury, an Anglican clergyman, near Charlottesville.

Important dates in Jefferson's life

1743 (April 13) Born in Goochland (now Albemarle) County, Virginia.
1772 (Jan. 1) Married Martha Wayles Skelton.
1776 Wrote the Declaration of Independence.
1779 Elected governor of Virginia.
1782 Mrs. Martha Jefferson died.
1785 Appointed minister to France.
1789 Became United States secretary of state.
1796 Elected Vice President of the United States.
1801 (Feb. 17) Elected President of the United States.
1819 Founded the University of Virginia.
1826 (July 4) Died at Monticello, his Virginia home.

In 1760, when he was 16, Jefferson entered the College of William and Mary at Williamsburg. The town had a population of only about 1,000. But as the provincial capital, it had a lively social life. There, young Jefferson met two men, William Small and Judge George Wythe, who would have a great influence on him. Small was a professor of mathematics at the college. "From his conversation," Jefferson later recalled, "I got my first views of the expansion of science and of the system of things in which we are placed." Small introduced his eager young disciple to Wythe, one of the most learned lawyers in the province (see **Wythe, George**).

Through Small and Wythe, Jefferson became friendly



Jefferson Birthplace Memorial Park Commission

Jefferson's birthplace was this house at Shadwell, a family estate of more than 2,500 acres (1,010 hectares) in central Virginia. Jefferson inherited the property when he was 14 years old.

with Governor Francis Fauquier. The four spent many evenings at the governor's mansion, talking and playing chamber music. Jefferson felt that "... to the habitual conversation on these occasions I owed much instruction." The young student also met Patrick Henry.

Jefferson spent two years at William and Mary. His studies and the companionship of cultured men stimulated his eager mind. He formed many of his ideas about humanity and God. Jefferson had been reared in the Anglican Church, but he developed a distrust of organized religion. His views resembled those of the Unitarians. In his old age, he wrote: "To love God with all thy heart and thy neighbor as thyself is the sum of religion."

Lawyer. After finishing college in 1762, Jefferson studied law with George Wythe. He watched with concern as tension grew between the American Colonies and the United Kingdom. In 1765, Jefferson heard Patrick Henry give his famous speech against the Stamp Act.

Jefferson was admitted to the bar in 1767. He practiced law with great success until public service began taking all his time. He divided his time between Williamsburg and Shadwell. At Shadwell, he designed and supervised the building of his own home, Monticello, on a nearby hill (see **Monticello**).

Jefferson's estate, like that of his father, lay in the rolling hills of Virginia's Piedmont region. The Scotch-Irish and German immigrants of this section had hacked their small farms out of the wilderness. Their ideas conflicted with the aristocratic beliefs of the wealthy landowners of the Tidewater region. Jefferson was related to many Tidewater aristocrats and was accepted in their society. But his political sympathies tended to be closer to those of his Piedmont neighbors.



Thomas F. Kelsey, CC Ae.

Jefferson collected clever devices throughout his lifetime. The swivel chair shown here and other items Jefferson gathered are on display at Monticello.



Robert Lightfoot, Atoz Images

Monticello, the home Jefferson designed and built between 1768 and 1809, is a 35-room brick mansion on a hilltop near Charlottesville, Virginia. It attracts thousands of visitors yearly.

Jefferson's family. In 1772, Jefferson married Martha Wayles Skelton (Oct. 19, 1748-Sept. 6, 1782), a widow. She was the daughter of John Wayles, a prominent lawyer who lived near Williamsburg. According to legend, Jefferson's love of music helped him win his bride. Two rival suitors came to call one day but left without a word when they saw the couple playing a duet on the harpsichord and violin.

The Jeffersons settled at Monticello, which was not yet completed. They had one son and five daughters, but only two children lived to maturity—Martha (1772-1836) and Mary (1778-1804). Mrs. Jefferson died in 1782, after only 10 years of marriage. Jefferson reared his two daughters. He never remarried.

Jefferson and Sally Hemings. Like many landowners of the time, Jefferson kept slaves. For many years, some historians thought that Jefferson might have had children with one of his slaves, Sally Hemings. In 1998, scientists conducted a DNA study to help learn if this was so. The study compared the DNA of male descendants of Sally Hemings with DNA from male descendants of Jefferson's uncle. The study could not include male descendants of Jefferson and his wife because they had no sons who lived to adulthood. Certain characteristics of Jefferson's DNA and that of his uncle, brother, and their descendants would be the same. The study suggested that Jefferson or one of his relatives fathered at least one of Hemings's children, Eston Hemings.

The Thomas Jefferson Memorial Foundation, which oversees Monticello, appointed a committee to review the study. Committee members examined historical and scientific documents and interviewed descendants of Monticello slaves and others. In early 2000, the foundation reported its findings. The likelihood is very strong, the foundation said, that Jefferson and Sally Hemings had a long-term relationship and that Jefferson was the father of one, if not all six, of Hemings's children.

Colonial statesman

Revolutionary leader. Jefferson was elected to the House of Burgesses in 1769 and served there until 1775. He was not a brilliant speaker but proved himself an able writer of laws and resolutions. Jefferson often showed a talent for clear and simple English that the more experienced legislators quickly recognized.

Jefferson became a member of a group that included Patrick Henry, Richard Henry Lee, and Francis Lightfoot



Lithograph (1876) by Currier & Ives; Library of Congress (Granger Collection)

The Declaration of Independence was written by Jefferson, a member of the committee named to draft it. The committee consisted of, *left to right,* Jefferson, Roger Sherman, Benjamin Franklin, Robert R. Livingston, and John Adams.

Lee. These men challenged the control that Tidewater aristocrats held over Virginia politics. They also took an active part in disputes between the colonies and the United Kingdom. Together with other patriots, they met in the Apollo Room of Williamsburg's Raleigh Tavern in 1769 and joined against the United Kingdom in a nonimportation association. The members protested the import duties set up by the Townshend Acts (see **Revolutionary War in America** [The Townshend Acts]).

After a brief lull, the controversy resumed in 1774. Jefferson took the lead in organizing another nonimportation agreement. He also called for the colonies to meet and consider their grievances. He was chosen to represent Albemarle County at the First Virginia Convention, which in turn was to elect Virginia delegates to the First Continental Congress. He became ill and could not go to the meeting, but he sent a paper giving his views.

Jefferson argued that the British Parliament had no control over the American Colonies. He declared that when the original settlers came to America, they had used their "natural rights" to emigrate. Jefferson claimed the colonies still owed allegiance only to the king, to whom the original settlers had freely chosen to remain loyal. Jefferson said the first English settlers in America were like the first Saxons who had settled in England hundreds of years before. The Saxons had come from the area of present-day Germany. Jefferson claimed the British Parliament had no more right to govern America than the German rulers had to govern England. Most Virginians at the convention found Jefferson's views too extreme. But his views, supported by able legalistic argument, were printed in 1774 in a pamphlet called *A Summary View of the Rights of British America.*

Jefferson attended the Second Virginia Convention in the spring of 1775. The members of this convention chose Jefferson as one of the delegates to the Second Continental Congress. Before he left for Philadelphia, the Virginia Assembly asked him to answer a message of peace from Lord North, the British prime minister. North had proposed that Parliament would not try to tax the settlers if they would tax themselves. Jefferson's *Reply to Lord North* was more moderate than the *Summary View.* But he rejected North's proposals. Jefferson insisted that a government had been set up in America for the colonists, not for the British. The Continental Congress approved Jefferson's letter to North.

The Declaration of Independence. Jefferson took a leading part in the Continental Congress. After the Revolutionary War began, he was asked to draft a "Declaration of the Causes and Necessity of Taking up Arms." The Congress found this declaration "too strong." The more moderate John Dickinson drafted a substitute, which included much of Jefferson's original version.

During the spring of 1776, sentiment rapidly grew stronger in favor of independence. On June 7, Richard Henry Lee of Virginia introduced his famous resolution that "these United Colonies are, and of right ought to be, free and independent States." Congress appointed a committee to draw up a declaration of independence. On the committee were Jefferson, John Adams, Benjamin Franklin, Roger Sherman, and Robert Livingston. The committee unanimously asked Jefferson to prepare the draft and approved it with few changes. Congress began debating the declaration on July 2 and adopted it on July 4. Congress made some changes, but, as Richard Lee said: "the Thing in its nature is so good that no cookery can spoil the dish for the palates of freemen."

The Declaration of Independence remains Jefferson's best-known work. It set forth with moving eloquence, supported by strong legal argument, the position of the American revolutionaries. It affirmed belief in the natural rights of all people. Few of the ideas were new. Jefferson said his object was "to place before mankind the common sense of the subject, in terms so plain and firm as to command their assent ... Neither aiming at originality of principle or sentiment, nor yet copied from any particular and previous writing, it was intended to be an expression of the American mind ..." For a description of the Declaration, see **Declaration of Independence**.

Virginia lawmaker. In September 1776, Jefferson resigned from Congress and returned to the Virginia House of Delegates. He had no interest in military life and did not fight in the Revolutionary War. He felt that he could be more useful in Virginia as a lawmaker. His first moves toward social reform involved land distribution. A few wealthy slaveholders controlled Virginia. The people in this largest colony suffered from uneven distribution of land. The colonial government closely restricted voting privileges and limited educational opportunities. In practice, a great deal of religious tolerance existed. But the Anglican Church was established by law.

Jefferson sponsored a bill abolishing *entail,* which requires property owners to leave their land to specified descendants, rather than disposing of it as they wish. Jefferson then succeeded in outlawing *primogeniture,* whereby all land passes to the eldest son (see **Primogeniture**). Without entail and primogeniture, great estates could be broken up. Jefferson described the purposes of land reform when he wrote: "instead of an aristocracy of wealth ... to make an opening for the aristocracy of virtue and talent."

At this time in Virginia, only people who owned land could vote. After large estates were broken up, more people owned property. As a result, more people could vote. The legislature passed another bill introduced by Jefferson providing that immigrants could become naturalized after living in Virginia for two years.

Even more important were Jefferson's bills designed to assure religious toleration and to abolish the special privileges of the Anglican Church in Virginia. Jefferson aroused hostility not only among Anglicans, but also among other denominations, which feared that a separation of church and state would loosen all religious ties. Virginia ended the Anglican Church's position as a state church in 1779. It took the church's clergymen off the public payroll and exempted Virginians from paying taxes to support the church. In 1786, when Jefferson was in France, the assembly passed his Statute of Religious Freedom, which guaranteed religious liberty in Virginia.

Jefferson also worked to revise Virginia's legal system. He pushed through many reforms, especially in land law and criminal law. The legislature defeated his plan for a system of free public education with a state-supported university, but parts of this plan later became law.

Jefferson was born into a slave society in which he continued to own slaves while opposing slavery. He never justified owning slaves, but he felt that freeing his slaves would not have ended slavery as an institution. He worked within the system to oppose slavery. He hoped the younger generation would end society's dependence on this system. Jefferson wrote, "Nothing is more certainly written in the book of fate than that these people are to be free."

Governor. The Virginia Assembly elected Jefferson governor for one-year terms in 1779 and 1780. During his administration, the state suffered severely from the effects of the Revolutionary War. At the request of General George Washington, Jefferson had stripped Virginia of its defenses to aid the American army. James Monroe was among those who recruited Virginians for military service. He and Jefferson formed a lasting friendship.

British troops under Benedict Arnold and Lord Cornwallis invaded Virginia in 1781. The state could put up little resistance. Jefferson himself barely escaped capture on June 4 when troops led by Lieutenant Colonel Banastre Tarleton swept down on Monticello.

Jefferson's term had ended on June 2. The Virginia legislature chose Thomas Nelson, Jr., the top officer of the state militia, to succeed Jefferson. Jefferson was criticized for the state's lack of resistance against the British invasion. An official investigation cleared him of blame. But many years passed before Jefferson regained prestige in his own state. The criticism wounded him deeply, and he left public office with genuine relief.

Congressman. Jefferson returned to Monticello embittered and determined to give up public life forever. He soon began writing his *Notes on the State of Virginia* (1784-1785). This book included much information on Virginia and on his own beliefs and ideals.

The death of Jefferson's wife in September 1782 left him stunned and distraught. For several months, he spoke to few people and wrote to none. His daughter Martha wrote many years later: "... the violence of his emotion ... to this day I dare not describe to myself." In referring to his wife's death, Jefferson told a friend: "A single event wiped out all my plans and left me a blank which I had not the spirits to fill up."

Jefferson was elected to Congress in 1783. He accepted the office because he felt it would take his mind off his personal tragedy. During his year in Congress, he devised a decimal system of currency that Congress approved. He also piloted through Congress the Treaty of Paris, which ended the Revolutionary War. Most important was Jefferson's work on the Ordinance of 1784 and the Land Ordinance of 1785. These measures formed the basis for all later American land policies.

The problem of western lands had troubled the colonies from the beginning of the war. Several colonies claimed land west of the Appalachian Mountains. Virginia, under Jefferson's leadership, gave up its claims in 1784. Other states followed, and the Northwest Territory was created (see **Northwest Territory**).

Problems of how to govern the area and how to dispose of its land then arose. Congress appointed two committees to consider the issues and made Jefferson chairman of both. In 1784, Jefferson submitted a draft of an ordinance for the political organization of the lands. It would have divided the region into several states. Each would eventually be admitted to the Union on a basis of complete equality with the original 13 states. Jefferson's provision forbidding slavery west of the Appalachians lost by one vote. The Ordinance of 1784 never went into effect, but it furnished the basis for the Northwest Ordinance of 1787 (see **Northwest Ordinance**).

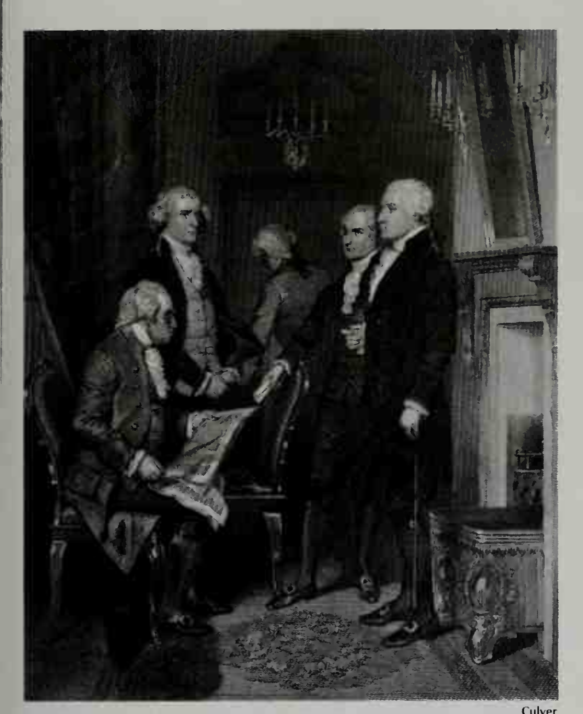
Minister to France. In May 1784, Congress sent Jefferson to France to join John Adams and Benjamin Franklin in negotiating European treaties of commerce. The next year, Franklin resigned as minister to France, and Jefferson succeeded him in Paris. "It is you, sir, who replace Franklin?" he was asked. "No, sir, I succeed him; no one can replace him," Jefferson replied. Yet Jefferson came as close as anyone could to replacing the honored Franklin. The United States was suffering from a weak central authority under the Articles of Confederation. Jefferson found himself seriously handicapped by what he described as "the nonpayment of our debts and the want of energy in our government." But he did work out several commercial agreements.

At this time, revolution was approaching in France. French reformers regarded Jefferson as a champion of liberty because of his political writings and his legal reforms in Virginia. The Marquis de Lafayette, who had fought for American independence, and other moderates often sought his advice. Jefferson tried to keep out of French politics. But he did draft a proposed Charter of Rights to be presented to the king. This document and his other suggestions urged moderation because Jefferson felt that the French were not yet ready for a representative government of the American type. Jefferson was in Paris at the beginning of the French Revolution. He sympathized with the revolution, feeling it was similar in purpose to the Revolutionary War in America.

Jefferson had taken his daughter Martha to France with him, and Mary joined them in 1787. Both girls attended a convent school in Paris. Jefferson traveled widely in Europe. He broadened his knowledge of many subjects, especially architecture and farming. He applied for a leave in 1789 and sailed for home in October. He wanted to settle his affairs in America and to take his daughters back home. Jefferson expected to return to represent the United States in France.

National statesman

During Jefferson's stay in France, Americans at home were busy reorganizing the government. Statesmen as-


Culver

Jefferson was secretary of state under President George Washington, *right.* The Cabinet was, *left to right,* Henry Knox, Jefferson, Edmund Randolph, and Alexander Hamilton.

sembled in a convention in 1787 and drew up what became the Constitution of the United States. Jefferson's friend James Madison sent him a draft, which he approved. But he objected strongly to the lack of a bill of rights and wrote letters urging one. Soon after the Constitution went into effect, Madison introduced the 10 amendments that became the Bill of Rights. See **Bill of rights.**

Secretary of state. Jefferson arrived in the United States in November 1789. A letter from President George Washington awaited him, asking Jefferson to be secretary of state in the new government. Jefferson received this invitation "with real regret," but he finally yielded to Washington's urging.

Jefferson and Hamilton. Sharp differences of opinion soon arose between Jefferson and the secretary of the treasury, Alexander Hamilton. Hamilton, though younger than Jefferson, had gained prominence as a spokesman for the Constitution. Although of humble origin, the New Yorker distrusted the common people. Hamilton believed that the United States would be best governed by an aristocracy of the rich and well-born. Jefferson, with his faith in the people, disagreed with Hamilton.

Hamilton's financial program embodied many of his principles, and brought these differences into the open (see **Hamilton, Alexander** [Secretary of the treasury]). Jefferson supported Hamilton's plan for funding all the debts of the previous national governments. He reluctantly agreed that Congress should also accept responsibility for the debts taken on by the states during the Revolutionary War. This proposal aroused considerable opposition, especially in Virginia and other Southern States that had paid off much of their debt. These states did not want to pay the debts of other states. Some Southern members of Congress agreed to vote for paying the state debts in return for having the national capital located in the South. Jefferson helped carry out this compromise, and the capital was located in the District of Columbia.

But Jefferson opposed Hamilton's plans to encourage shipping and manufacturing. Jefferson wanted the United States to remain a nation of farmers. Hamilton's proposed national bank also alarmed Jefferson. He feared that such a bank would encourage financial speculation and hurt farming interests. Jefferson also thought it would give the government too much power. Washington asked his Cabinet to submit opinions on the constitutionality of a national bank. Jefferson developed his "strict construction" theory, which held that the government should assume only the powers expressly given it by the Constitution. Hamilton replied with his "loose" interpretation of the Constitution, declaring that the government could assume all powers not expressly denied it. Washington generally favored Hamilton in domestic affairs and approved the bank.

The differences between Jefferson and Hamilton grew into a bitter personal feud. Neither man believed in the honesty or good faith of the other. Hamilton went so far as to call Jefferson a "contemptible hypocrite." Their conflicting points of view led to the development of the first political parties. The Federalists adopted Hamilton's principles. Jefferson led the Democratic-Republicans (called *Republicans* at the time, though some historians regard it as the origin of the modern Democratic Party). See **Federalist Party; Democratic-Republican Party.**

Foreign affairs. Washington supported most of Jefferson's policies in foreign relations. Jefferson urged recognition of the new revolutionary government of France. But he reluctantly supported Washington's proclamation of neutrality, and agreed on demanding the recall of Citizen Genêt (see **Genêt, Edmond C. É.**). Jefferson tried to persuade the British to abandon their forts in the Northwest Territory. He also worked for free navigation of the Mississippi River. For a fuller description of this period, see **Washington, George.**

Vice President. Jefferson joined his fellow Cabinet members in urging Washington to accept a second term as President. But he himself was heartily weary of office and wanted to escape the "hated occupation of politics." Jefferson finally persuaded Washington to accept his resignation. In January 1794, Jefferson returned to Monticello. He hoped to find happiness "in the society of my neighbors and my books, in the wholesome occupations of my farm and my affairs . . . owing account to myself alone of my hours and actions."

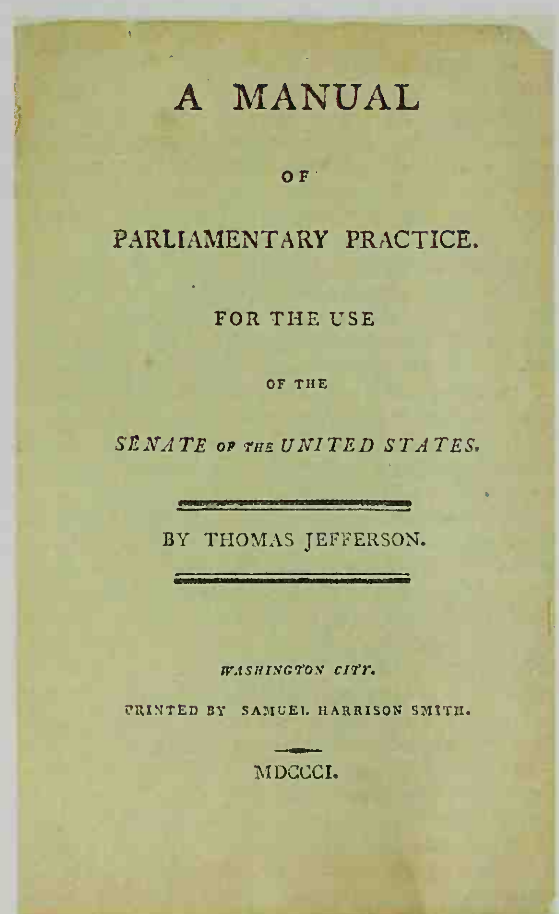
But a life of this kind did not last long. In 1796, his Democratic-Republican supporters nominated him as a candidate for President to run against John Adams, the Federalist candidate. Adams received 71 electoral votes in this first party contest for the presidency and was elected President. Jefferson received 68 electoral votes, the second largest number. By the law of the time, he became Vice President.

Jefferson took no active part in the new Administration because it was largely Federalist. As leader of the

opposition, he strengthened the organization of the Democratic-Republican Party. He found strong support among small farmers, frontier settlers, and Northern laborers. His relations with Adams grew more and more strained, until the men broke completely in 1800.

Jefferson presided over the Senate with dignity and skill. To aid deliberations, he wrote his famous *Manual of Parliamentary Practice,* which is still in use.

In 1798, the XYZ Affair aroused great hostility to France (see **XYZ Affair**). War hysteria led the Federalists to pass the Alien and Sedition Acts (see **Alien and Sedition Acts**). These laws in effect deprived the Democratic-Republicans of freedom of speech and of the press. They aroused much opposition, and Jefferson led the attack against them. He prepared a series of resolutions that were passed by the Kentucky legislature, and his friend Madison prepared similar resolutions for Virginia. These Kentucky and Virginia Resolutions set forth the "compact" theory of the Union and asserted the right of the states to judge when this compact had been broken. They were later used by advocates of nullification and secession. See **Kentucky and Virginia Resolutions; Nullification.**



A MANUAL

OF

PARLIAMENTARY PRACTICE.

FOR THE USE

OF THE

SENATE OF THE UNITED STATES.

BY THOMAS JEFFERSON.

WASHINGTON CITY.

PRINTED BY SAMUEL HARRISON SMITH.

MDCCCI.

Virginia State Library

Jefferson's Manual of Parliamentary Practice, a handbook of rules for the Senate, was published in 1801. The Senate still uses the manual.

Election of 1800. The Democratic-Republicans again nominated Jefferson for President in 1800, and named former Senator Aaron Burr of New York for Vice President. The Federalist Party renominated President Adams and chose diplomat Charles C. Pinckney of South Carolina as his running mate. The Federalists warned Americans that Jefferson was a revolutionary, an anarchist, and an unbeliever. One Connecticut clergyman wrote: "I do not believe that the Most High will permit a howling atheist to sit at the head of this nation." The Federalists were divided among themselves. Hamilton had quarreled with Adams, and wrote a pamphlet attacking him. This party quarrel helped the Democratic-Republicans, as did the unpopular Alien and Sedition Acts.

Jefferson won the presidency by receiving 73 electoral votes to 65 for Adams. His followers celebrated with bonfires and patriotic speeches. But their spirits fell when they learned that each Democratic-Republican elector had cast one vote for Jefferson and the other for Burr. Although they had clearly intended to elect Jefferson to the presidency and Burr to the vice presidency, the result was a tie. Burr was technically also a candidate for President according to the voting procedures of the time. He failed to withdraw his name as a candidate, and the House of Representatives had to settle the election.

The Federalists still controlled the House because the newly elected Democratic-Republican Congress had not yet taken office. Many Federalist members of Congress preferred Burr to Jefferson because they thought Burr would be more manageable. But Hamilton distrusted Burr even more than he did Jefferson. He threw his influence to the support of Jefferson, who won election on the 36th ballot. The final vote occurred on Feb. 17, 1801. Burr became Vice President. This election led to an amendment to the Constitution by which each elector in the Electoral College casts one vote for President and one for Vice President (see **Constitution of the United States** [Amendment 12]).

Jefferson's first Administration (1801-1805)

The election of 1800, Jefferson insisted, "was as real a revolution in the principles of our government as that of 1776 was in its form." He felt that the Democratic-Republican victory after 12 years of Federalism would save the nation from tyranny.

Jefferson spoke more moderately in his inaugural address than he did during the political campaign. He was the first President to be inaugurated in Washington. Jefferson declared in his speech that "every difference of opinion is not a difference of principle. We have called by different names brethren of the same principle. We are all republicans—we are all federalists." Actually, the government continued much as before. Within a short time, the Democratic-Republicans had adopted, or at least accepted, many ideas of the Federalists.

Jefferson, a poor public speaker, was the first President to send his annual message to Congress, rather than deliver it in person. Later Presidents followed this procedure until 1913, when Woodrow Wilson resumed the practice of appearing before Congress.

Life in the White House. The so-called "President's House" was only partly built when Jefferson moved in. He felt somewhat lonely in what he described as "a great stone house, big enough for two emperors, one pope



Thomas Jefferson Memorial Foundation

Martha Randolph, Jefferson's older daughter, sometimes served as hostess at the White House. Jefferson's wife, Martha Wayles Skelton, died 18½ years before he became President.

and the grand lama." He kept a pet mockingbird for company. Jefferson's wife had been dead 18½ years when he became President. His daughter Martha Randolph served as hostess of the White House from time to time. Jefferson's most popular hostess was Dolley Madison, the wife of his secretary of state. Jefferson's grandson, James Randolph, was the first child born in the White House.

Jefferson kept a French steward and chef, but he tried to eliminate some of the formality in White House protocol. He began the practice of having guests shake hands with the President instead of bowing. He also placed dinner guests at a round table so that everyone would feel equally important. Always interested in architecture, Jefferson developed some ideas for the addition of east and west terraces and a north portico to the White House. He employed Benjamin H. Latrobe to carry out these ideas (see **Latrobe, Benjamin H.**).

New policies. Jefferson believed that government should play the smallest possible role in national life. With the help of Secretary of the Treasury Albert Gallatin, he began a policy of strict economy. The government sharply reduced department expenditures, especially those for the Army and Navy. It made substantial

Vice Presidents and Cabinet

Vice President	*Aaron Burr *George Clinton (1805)
Secretary of state	*James Madison
Secretary of the treasury	Samuel Dexter *Albert Gallatin (1801)
Secretary of war	*Henry Dearborn
Attorney general	Levi Lincoln John Breckinridge (1805) Caesar A. Rodney (1807)
Secretary of the Navy	Robert Smith

*Has a separate biography in WORLD BOOK

Highlights of Jefferson's Administration

1801	(June 10) Tripoli declared war on America.
1802	(July 4) The U.S. Military Academy opened.
1803	(Feb. 24) The Supreme Court decided the case of *Marbury v. Madison.*
1803	(March 3) John Pickering became the first federal judge to be impeached.
1803	(May 2) The Louisiana Territory was purchased from France, by a treaty predated April 30.
1804	(May 14) The Lewis and Clark Expedition set out for the Northwest.
1804	(Sept. 25) Amendment 12 to the Constitution was adopted.
1805	(June 4) The United States and Tripoli signed a peace treaty.
1807	(Dec. 22) Congress passed the Embargo Act against international commerce.
1808	(Jan. 1) The act prohibiting the importation of African slaves became law.
1809	(March 1) The Non-Intercourse Act was passed, banning trade with France and Britain.

payments on the national debt. It repealed excise taxes, which had aroused opposition under the Federalists.

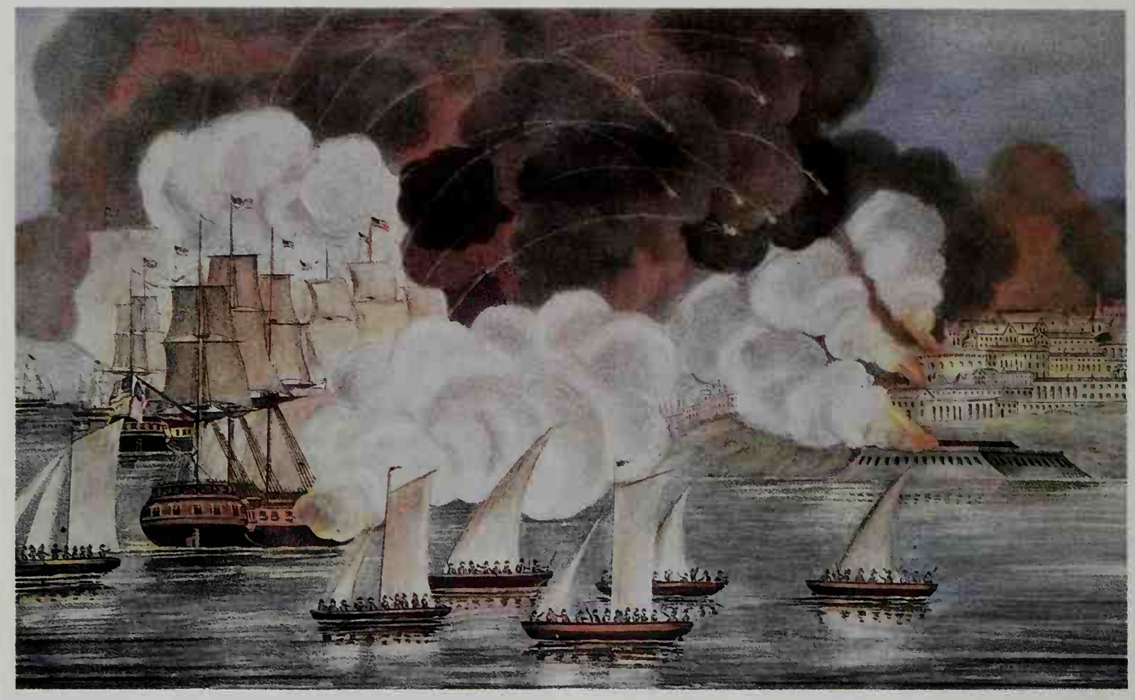
The Administration also reversed other Federalist policies. It repealed the Naturalization Act. The Alien Friends Act and the Sedition Act were not renewed. The Alien Enemies Act was greatly amended.

Jefferson believed that appointments to federal jobs should be based on merit. But Federalists held all the offices, and he quickly discovered that vacancies "by death



Louisiana Historical Society

A ceremony honoring the Louisiana Purchase took place in New Orleans in 1803. The United States had bought French territory between the Mississippi River and the Rocky Mountains.



Lithograph (1846) by Nathaniel Currier; Granger Collection

War with Tripoli, one of the Barbary States of northern Africa, began in 1801. Barbary *corsairs* (sea raiders) from Tripoli had attacked American shipping. During the war, the U.S. Navy bombarded Tripoli, *above.* The conflict ended in 1805 with an American victory.

are few; by resignation none." He removed some Federalists, and generally appointed Democratic-Republicans to vacancies. By the end of Jefferson's second term, his party held most federal offices. In effect, Jefferson's actions foreshadowed the spoils system (see **Spoils system**).

The courts. The Administration asked Congress to repeal the Judiciary Act of 1801. This act had allowed President Adams to make more than 200 "midnight appointments" of judges and other court officials just before he left office. Some of these judges had no commissions, no duties, and no salaries. Jefferson told them to consider their appointments as never having been made.

William Marbury was one of 42 justices of the peace whom Adams had appointed to five-year terms in the District of Columbia. He applied to the Supreme Court for a writ of mandamus, ordering Secretary of State James Madison to deliver his commission (see **Mandamus**). Marbury did this in accordance with the Judiciary Act of 1789, which gave the Supreme Court power to issue such writs. Marbury's action led to one of the most important Supreme Court decisions in American history, that of *Marbury v. Madison* in 1803. In its decision, the court declared unconstitutional the section of the Judiciary Act of 1789 that gave the court power to issue writs of mandamus. Therefore, the court refused to force Madison to deliver Marbury's commission. See **Marbury v. Madison.**

On the surface, Chief Justice John Marshall's decision should have pleased Jefferson and his fellow Democratic-Republicans. The decision meant that the Jefferson Administration did not have to deliver commissions to the "midnight judges" appointed by the Federalists. But the Democratic-Republicans were disturbed by the idea that the Supreme Court could declare unconstitutional a law passed by Congress. This principle placed a powerful weapon in the hands of the courts, which the Federalists still controlled. Many Democratic-Republicans feared that the Supreme Court would use its power to help the Federalists.

The Democratic-Republicans tried impeachment as a way of checking the federal courts. First they impeached John Pickering, a New Hampshire judge who was a victim of insanity. After the Senate had removed Pickering from office, the House brought impeachment charges against Justice Samuel Chase of the Supreme Court. The House charged that he had criticized the Jefferson administration unfairly. The Senate acquitted him, much to Jefferson's disappointment. This helped establish the precedent that political changes do not affect the tenure of judges. See **Impeachment** (History).

War with Tripoli. Ever since Jefferson had been minister to France, he had urged that the United States should act against the Barbary *corsairs* (sea raiders) of North Africa. These corsairs attacked trading ships, demanding tribute and ransom from all countries. The United States had paid Tripoli, the most unruly of the Barbary States, $2 million in 10 years. In 1801, Tripoli opened war on American shipping because it wanted more tribute money. The little United States Navy blockaded Tripoli's ports, bombarded fortresses, and eventually forced Tripoli to respect the American flag. The war with Tripoli did not end troubles with the Barbary States,

Quotations from Jefferson

The following quotations come from some of Thomas Jefferson's speeches and writings.

Ignorance is preferable to error: and he is less remote from the truth who believes nothing, than he who believes what is wrong.
Notes on the State of Virginia (1784-1785)

. . . were it left to me to decide whether we should have a government without newspapers, or newspapers without a government, I should not hesitate a moment to prefer the latter.
Letter to Colonel Edward Carrington, an American statesman, Jan. 16, 1787

I hold it that a little rebellion now and then is a good thing, and as necessary in the political world as storms in the physical.
Letter to the American statesman James Madison, Jan. 30, 1787

Determine never to be idle. No person will have occasion to complain of the want of time who never loses any. It is wonderful how much may be done if we are always doing.
Letter to his daughter Martha, May 5, 1787

The tree of liberty must be refreshed from time to time with the blood of patriots and tyrants. It is its natural manure.
Letter to Colonel William Stephens Smith, an American diplomat, Nov. 13, 1787

. . . delay is preferable to error.
Letter to President George Washington, May 16, 1792

. . . unmerited abuse wounds, while unmerited praise has not the power to heal.
Letter to Edward Rutledge, an American political leader, Dec. 27, 1796

The second office of the government is honorable and easy, the first is but a splendid misery.
Letter to the American statesman Elbridge Gerry comparing the vice presidency with the presidency, May 13, 1797

. . . I have sworn upon the altar of God, eternal hostility against every form of tyranny over the mind of man.
Letter to Benjamin Rush, American physician and political leader, Sept. 23, 1800

All, too, will bear in mind this sacred principle, that though the will of the majority is in all cases to prevail, that will, to be rightful, must be reasonable; that the minority possess their equal rights, which equal laws must protect, and to violate which would be oppression.
First Inaugural Address, March 4, 1801

. . . error of opinion may be tolerated where reason is left free to combat it.
First Inaugural Address, March 4, 1801

Sometimes it is said that man cannot be trusted with the government of himself. Can he, then, be trusted with the government of others? Or have we found angels in the forms of kings to govern him? Let history answer this question.
First Inaugural Address, March 4, 1801

1. Never put off till to-morrow what you can do to-day.

2. Never trouble another for what you can do yourself.

3. Never spend your money before you have it.

4. Never buy what you do not want, because it is cheap; it will be dear to you.

5. Pride costs us more than hunger, thirst and cold.

6. We never repent of having eaten too little.

7. Nothing is troublesome that we do willingly.

8. How much pain have cost us the evils which have never happened.

9. Take things always by their smooth handle.

10. When angry, count ten, before you speak; if very angry, an hundred.
Letter to his namesake Thomas Jefferson Smith, Feb. 21, 1825

Resistance to tyrants is obedience to God.
Saying found among Jefferson's papers, date unknown

but it brought prestige to the United States Navy.

Western expansion. Jefferson had shown great interest in the West since his days in Congress. He obtained a grant from Congress early in 1803 for exploration of the region all the way to the Pacific Ocean. He sent Meriwether Lewis and William Clark to the headwaters of the Missouri River, then across the Rockies to the Pacific. See **Lewis and Clark Expedition.**

The population of the Northwest Territory grew rapidly. Ohio joined the Union in 1803 as the 17th state. In 1804, the government encouraged western settlement by cutting in half, from 320 to 160 acres (130 to 65 hectares), the minimum number of acres of western land that could be bought. Anyone with $80 in cash could make the first payment on a frontier farm.

The Louisiana Purchase ranks as one of Jefferson's greatest achievements. The Louisiana Territory, a vast region between the Mississippi River and the Rocky Mountains, had been transferred from France to Spain in 1762. Jefferson learned in 1801 that Spain planned to cede the area back to France. When Louisiana belonged to Spain, it offered no threat to the United States. Under Napoleon, it might block American expansion and threaten American democracy.

In 1803, Jefferson obtained $2 million from Congress for "extraordinary expenses." He sent James Monroe to Paris to help the American minister, Robert Livingston, negotiate with France. Jefferson hoped to buy New Orleans and the Floridas. He at least wanted to get a perpetual guarantee of free navigation of the Mississippi and various commercial privileges at New Orleans.

Before Monroe reached Paris, Livingston proposed a modest purchase of New Orleans. Talleyrand, the French foreign minister, astounded Livingston by asking: "What would you give for the whole of Louisiana?" After Monroe arrived, he and Livingston quickly struck a bargain. For the province of Louisiana, the United States paid $11,250,000 and gave up claims on France estimated at $3,750,000. So, for about $15 million, the government gained control of the Mississippi River and almost doubled the nation's size.

Jefferson was amazed when he learned about the purchase. He doubted whether the government had a right under the Constitution to add this vast new territory to the Union. But his doubts did not keep him from submitting the treaty to the Senate, which ratified it by a vote of 24 to 7. Jefferson later said that he had "stretched the Constitution till it cracked." See **Louisiana Purchase.**

Election of 1804. There seemed little doubt that a prospering nation would reelect Jefferson in 1804. The Democratic-Republicans nominated Governor George Clinton of New York for Vice President.

But a group of northeastern Federalists feared that the purchase of Louisiana would weaken New England's position and influence. They felt that the time had come to break up the Union and sought an ally in Vice President Burr. The plotters wanted to elect Burr governor of New York so he could help take that state out of the Union along with New England. Alexander Hamilton helped to defeat the plot.

The election of 1804 completely defeated the Federalists. Even New England, except for Connecticut, went Democratic-Republican. The final electoral count gave 162 votes to Jefferson and only 14 to the Federalist can-

didate, Charles C. Pinckney, a lawyer from Charleston, S.C. For votes by state, see **Electoral College** (table).

Jefferson's second Administration (1805-1809)

Jefferson's second term began, as he later put it, "without a cloud on the horizon." But a storm soon began to gather.

The Burr conspiracy. Aaron Burr, already discredited in politics, had further damaged his reputation by killing Alexander Hamilton in a duel in July 1804. He then became involved in a mysterious scheme, the purpose of which is still not clear. He may have wanted to take the West away from the United States, or perhaps to conquer the Spanish Southwest. In any case, Burr tried unsuccessfully to get support from the British, French, or Spanish against his own government. He then raised a small military force of his own. In 1806, Burr set off down the Ohio River for New Orleans, hoping to gather recruits along the way. General James Wilkinson, the governor of the Louisiana Territory, had encouraged Burr to expect his support. But he decided to expose Burr's plot and wrote to Jefferson about a "deep, dark, wicked, and widespread conspiracy."

Jefferson had Burr captured, taken to Richmond, and tried for treason. To the disgust of Jefferson and others, Chief Justice Marshall interpreted the charge of treason so narrowly that the jury had to acquit Burr. See **Burr, Aaron.**

The struggle for neutrality. War had broken out between Great Britain and France in May 1803. Jefferson found that his chief tasks were to keep the United States out of the war, and at the same time uphold the country's rights as a neutral.

Britain and France were destroying each other's merchant shipping. One result was that a large part of the West Indies-Europe trade fell into American hands. American shipbuilding and commerce grew rapidly, and thousands of sailors were needed. Most of these men came from New England, but many had deserted from British ships. Britain, desperately needing seamen, began stopping American ships on the high seas and removing sailors suspected of being British. But it was hard to tell British and Americans apart. Thousands of Americans were seized and forced into the British Navy.

The struggle in Europe soon became so intense that neither side cared much about the rights of neutral nations. In the Berlin and Milan decrees of 1806 and 1807, Napoleon announced his intention to seize all neutral ships bound to or from a British port. The British issued a series of orders in council which blockaded all ports in the possession of France or its allies (see **Order in Council**). In practice, this meant that the British would try to seize any ship bound for the European continent, while the French would do their best to seize ships sailing almost anywhere else.

The crowning outrage occurred in June 1807, when the British frigate *Leopard* launched an unprovoked attack on the American ship *Chesapeake*. The *Leopard* fired on the *Chesapeake* after the captain of the American vessel refused to let the British search his ship for deserters. This incident almost brought the two nations to war. Jefferson later wrote: "The affair of the *Chesapeake* put war into my hand. I had only to open it and let havoc loose."

Commercial retaliation. Jefferson knew that the United States was not prepared for war. In any case, it would have been hard to decide whether to fight France or Britain. Jefferson believed that he could bring the warring nations to reason by closing American markets to them, and not selling them any American supplies. In 1807, he forced the Embargo Act through Congress. This law prohibited exports from the United States and barred American ships from sailing into foreign ports.

The embargo injured the United States far more than it did either Britain or France. Ships lay idle, sailors and shipbuilders lost their jobs, and exports piled up in warehouses. Many Americans evaded the law, and smuggling flourished.

The government had to pass additional laws to increase the nation's coastal defenses and to enforce the embargo. Jefferson, who found himself favoring more and more federal control, commented: "This embargo law is certainly the most embarrassing one we have ever had to execute." After 14 months, it became clear that the embargo would force no concessions from either Britain or France. Public clamor against the measure grew overwhelming, and Congress repealed it in March 1809 by passing the milder Non-Intercourse Act.

Many people urged Jefferson to run for reelection again in 1808. But he chose to follow George Washington's example and retire from office after two terms. Jefferson made it clear that he expected James Madison to be the next President. Madison won election easily.

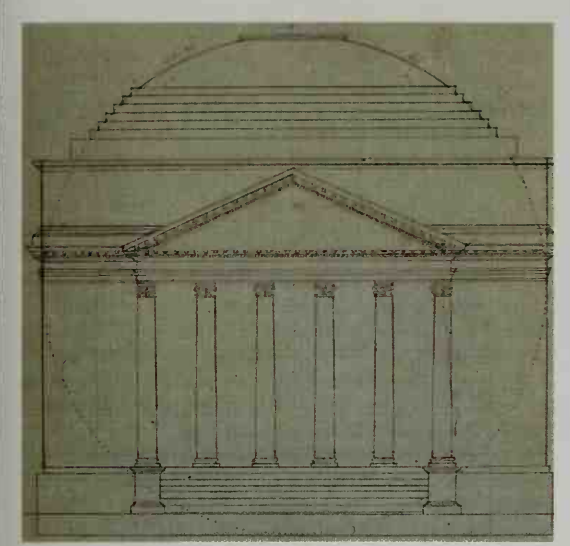
Later years

Jefferson was 65 when he retired from the presidency in 1809. He felt free at last to cultivate those "tranquil pursuits of science" for which, he said, nature had intended him. "Never did a prisoner, released from his chains, feel such relief as I shall on shaking off the shackles of power," he wrote.

The sage of Monticello. Leisure gave Jefferson a chance to enjoy his countless and varied interests. He turned to music, architecture, chemical experiments, and the study of religion, philosophy, law, and education. During his long absence, Monticello had run down, and Jefferson worked energetically to repair the damages of long neglect. He also experimented with new crops and new farming techniques, and improved his flower and herb gardens.

Jefferson carried on an immense correspondence with people in all parts of the world. He improved a copying device called the *polygraph,* which made file copies of the many letters he wrote. He entertained an endless stream of guests who came to pay their respects. In 1811, Jefferson was reconciled with John Adams, and the two men renewed their old friendship. Their letters ranged widely over the fields of history, politics, philosophy, religion, and science. The remarkable correspondence continued until they died—both on the same day, July 4, 1826.

Jefferson had withdrawn from politics, but he was consulted constantly on public affairs. Madison and Monroe, his successors in the White House, frequently sought his advice. Jefferson had little money. He had made additions to Monticello, entertained lavishly, and supported members of his family. In 1815, he sold his library of more than 6,400 volumes to Congress to re-



Thomas Jefferson Papers, University of Virginia Library

Jefferson's design for the University of Virginia rotunda was modeled after the Pantheon in Rome. Jefferson founded the university and planned many of its buildings.

place the books that the British had destroyed when they burned the Capitol during the War of 1812 (1812-1815). Public contributions aided him in later years, but Monticello passed out of the hands of his family after his death.

University founder. Jefferson's most important contributions in his later years were probably in the field of education. As a young legislator, he had worked for reform of Virginia's system of public education. Later he had tried to improve William and Mary College. In time, he became convinced that the state needed an entirely new university.

After he returned to Monticello, Jefferson worked constantly to create the University of Virginia. He projected his character, interests, and talents in planning a university "based on the illimitable freedom of the human mind to explore and to expose every subject susceptible of its contemplation." Jefferson reorganized the curriculum, hired the faculty, and selected the library books. Jefferson also drew the plans for the buildings and supervised their construction. As a result of his efforts, scholars from other countries were persuaded to teach at the university. In March 1825, Jefferson had the joy of seeing the University of Virginia open with 40 students.

But his strength was failing. On July 4, 1826, just 50 years after the adoption of the Declaration of Independence, Jefferson died. He was buried beside his wife at Monticello. The inscription that Jefferson wrote for his grave marker reads: "Here was buried Thomas Jefferson, Author of the Declaration of American Independence, of the Statute of Virginia for religious freedom, & Father of the University of Virginia." These were accomplishments that he ranked higher than being president of the United States.

Noble E. Cunningham, Jr.

Related articles in *World Book* include:

Anti-Federalists
Burr, Aaron
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Declaration of Independence
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Lewis and Clark Expedition
Louisiana Purchase
Madison, Dolley P.
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Monticello
Mount Rushmore National Memorial
Nickel (picture: The U.S. nickel)
President of the U.S.
Virginia (picture: The State Capitol)
Washington, D.C. (picture: Jefferson Memorial)

Outline

I. **Early life**
- A. Boyhood
- B. Education
- C. Lawyer
- D. Jefferson's family
- E. Jefferson and Sally Hemings

II. **Colonial statesman**
- A. Revolutionary leader
- B. The Declaration of Independence
- C. Virginia lawmaker
- D. Governor
- E. Congressman
- F. Minister to France

III. **National statesman**
- A. Secretary of state
- B. Vice President
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IV. **Jefferson's first Administration (1801-1805)**
- A. Life in the White House
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V. **Jefferson's second Administration (1805-1809)**
- A. The Burr conspiracy
- B. The struggle for neutrality
- C. Commercial retaliation

VI. **Later years**
- A. The sage of Monticello
- B. University founder

Questions

What three achievements are noted on Jefferson's grave marker?
How did Jefferson's political enemy help him become president in 1801? Why did he do this?
On what occasion did Jefferson "stretch the Constitution till it cracked"?
What is meant by *Jeffersonian democracy*?
How did Jefferson help advance democracy in Virginia?
In what case did the Supreme Court gain great power during Jefferson's first administration?
On what basis did Jefferson argue that Americans owed no allegiance to the British Parliament?
How did Jefferson's views affect the adoption of the Constitution?
Why did he lose prestige as Virginia governor?
How did Jefferson's philosophy of government conflict with that of Alexander Hamilton?

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Jefferson City (pop. 39,636) is the capital of Missouri. It lies near the center of the state, along the Missouri River (see Missouri [political map]). It was named for the third president of the United States, Thomas Jefferson.

The State Capitol dominates the city's downtown area. It is built of white limestone and resembles the United States Capitol. On the building's third floor, famous murals by American painter Thomas Hart Benton portray Missouri's history. Near the Capitol are the Governor's Mansion, which is a fine example of French-Italian architecture, and the huge, modern Harry S. Truman State Office Building. Jefferson City is the home of Lincoln University.

The state government is Jefferson City's largest employer. The city's products include automobile parts, cotton swabs and other health-care items, textbooks, transformers, truck radiators, and washing machines.

Jefferson City became the capital of Missouri in 1826, when it was a tiny settlement. It grew after it became a stopping point for stagecoaches and steamboats in the 1830's. Jefferson City is the county seat of Cole County and has a mayor-council government. Donald S. Norfleet

See also Missouri (pictures).

Jefferson Memorial, in Washington, D.C., is a shrine to the third president of the United States and author of the Declaration of Independence. Its official name is the *Thomas Jefferson Memorial.*

The memorial is a white marble building on the south side of the Tidal Basin near the Potomac River. The shrine was designed by architects John Russell Pope, Otto R. Eggers, and Daniel P. Higgins. President Franklin D. Roosevelt spoke at a ceremony that marked the start of construction in 1938. The memorial was built at a cost of $3 million. It was dedicated on April 13, 1943, the 200th anniversary of Jefferson's birth.

The building is circular, with a *portico* (porch) supported by 12 columns. This design is based on the classical style of architecture, which Jefferson introduced into the United States. Two circular terraces surround the memorial. Three broad flights of steps, with level platforms at intervals, lead from the edge of the Tidal Basin to the portico. A 19-foot (5.8-meter) statue of Jefferson by the American sculptor Rudulph Evans stands inside the memorial. Four quotations from Jefferson's writings are engraved on panels inside the shrine. The memorial is administered by the National Park Service.

Critically reviewed by the National Park Service

See also Washington, D.C. (picture).

Jefferson National Expansion Memorial. See Saint Louis (The city).

Jefferson Territory was the name proposed in 1859 for the area that covered the present state of Colorado and large parts of what are now Nebraska, Utah, and Wyoming. Thousands of Americans rushed into the Rocky Mountain region of Colorado in 1858 and 1859 because of rumors and reports of gold discoveries. In 1859, residents established a provisional government and elected Robert W. Steele as governor. They also asked Congress for recognition as the Jefferson Territory. But Congress failed to grant the request, partly because its members were involved in a bitter dispute over the spread of slavery to new territories. The provisional government continued to operate until 1860. In 1861, after seven Southern states withdrew from the Union over the slavery issue, Congress made the former Jefferson Territory the Colorado Territory (see Colorado [The gold rush]). Carl Abbott

Jeffersonian democracy. See Jefferson, Thomas; United States, History of the (Jeffersonian democracy).

Jeffords, James Merrill (1934-), is a United States senator from Vermont. He left the Republican Party to become an Independent in 2001. As a result, the Democrats became the majority in the Senate. It was the first time in Senate history that control of the Senate shifted when a senator changed parties.

Jeffords, though a Republican, had a liberal voting record. He said he had found himself often disagreeing with what he considered the increasingly conservative agenda of the Republican Party. He said he left the party to best serve Vermont and his own principles. Before Jeffords switched parties, the Senate had been equally divided. As a result of the 2000 election, the Senate had been made up of 50 Democrats and 50 Republicans.

Jeffords became chair of the Committee on Environment and Public Works in 2001. He is also a member of the Health, Education, Labor, and Pensions Committee and the Finance Committee. He supported a family leave bill that was passed by Congress and signed into law by President Bill Clinton. He also supported an increase in the legal minimum wage that Clinton called for and Congress approved in 1996.

Jeffords was born in Rutland, Vermont. He earned a bachelor's degree from Yale University in 1956. He served in the United States Navy from 1956 to 1959. Jeffords received a law degree from Harvard Law School in 1962 and began to practice law. From 1964 to 1966, he chaired the Rutland County, Vermont, Board of Tax Appeals. He served in the Vermont state Senate from 1967 to 1968. He was state attorney general from 1969 to 1973.

Jeffords was a member of the U.S. House of Representatives from 1975 to 1989. He has served in the U.S. Senate since 1989. Lee Thornton

Jeffries, James Jackson (1875-1953), won the world's heavyweight boxing championship in his 13th professional fight. He won the championship on June 9, 1899, by knocking out Bob Fitzsimmons in 11 rounds. He retired undefeated in 1905, but made a comeback in 1910. Jack Johnson knocked him out in 15 rounds. Jeffries later promoted amateur boxing. He was born in Carroll, Ohio.

Bert Randolph Sugar

Jehovah, *jih HOH vuh,* is a form of *Yahweh,* the sacred Hebrew name for God. God first revealed the name Yahweh to the Israelite leader Moses (Exodus 3:14). Jews thought the name Yahweh was too holy to pronounce. By the 200's B.C., they were using the word *Adonai* as a respectful substitute when reading from the scriptures. When Yahweh was preceded by Adonai, they said *Elohim.* When writing the word, Jewish scribes mixed the vowels of Adonai and Elohim with the consonants of YHWH, the traditional spelling of Yahweh. This mixing resulted in the Latin spelling, Jehovah, which carried over into English. Joseph M. Hallman

See also God.

Jehovah's Witnesses, *jih HOH vuhz,* are members of a religious group that uses the Watch Tower Bible and Tract Society as its corporate body. They took their name from Isaiah 43:12: "Ye are my witnesses, saith Jehovah, and I am God" (American Standard Version).

The Witnesses believe there is one God, called Jehovah. They consider the resurrected Jesus to be divine in nature but, as God's Son, not equal to God as Father. They consider Abel, the son of Adam and Eve, as the first of Jehovah's Witnesses, and cite Hebrews 11 and 12:1 as their source. The Witnesses use the Bible as their sole guide to belief. They strive to give exclusive devotion to Jehovah, and they obey Jesus's command to preach "this good news of the Kingdom" (Matt. 24:14). They believe God's war of Armageddon will rid the earth of all wickedness in this generation.

The modern group now called Jehovah's Witnesses was started in Pennsylvania in the 1870's by Charles Taze Russell and his associates. The Watch Tower Bible and Tract Society was incorporated in 1884 with Russell as president. The group took its present name in 1931. The society's magazine, *The Watchtower,* was first published in 1879. It is printed in 130 languages. Jehovah's Witnesses conduct activities throughout the world. Membership is more than $5\frac{1}{2}$ million. Headquarters of the society are in the Brooklyn section of New York City.

Critically reviewed by Jehovah's Witnesses

Jellicoe, *JEL ih koh,* **John Rushworth** (1859-1935), was a British naval officer during World War I (1914-1918). He commanded the British Grand Fleet at the Battle of Jutland in May 1916, the only time the main British and German fleets met in combat. The battle's result was controversial. Although the British suffered greater damage, the German fleet never again contested British control of the North Sea. Jellicoe then directed the campaign against German submarine warfare until December 1917. See **Jutland, Battle of.**

Jellicoe was born in Southampton, England. He served in Egypt in 1882 and in the Boxer Rebellion in China in 1900. Jellicoe was knighted in 1907 and was made a member of the British nobility in 1918. He served as governor general of New Zealand from 1919 to 1924. He became Earl Jellicoe in 1925. Ian F. W. Beckett

Jelly and jam are sweet, thick spreads made from fruit. Jelly is made from fruit juice and has a clear appearance. Both fruit juice and fruit pulp are used to produce jam. The pulp makes jam look cloudy.

Jelly and jam are made from many kinds of fruit, including apples, apricots, blackberries, boysenberries, cherries, grapes, oranges, peaches, raspberries, and strawberries. The spreads are usually eaten on bread, rolls, and crackers. The sugar in jelly and jam provides a good source of energy.

The proper firmness of jelly and jam is achieved by mixing sugar and a thickener with fruit juice that has a high acid content, and then boiling the mixture. *Pectin,* a carbohydrate found in fruit, is the most commonly used thickener (see **Pectin**).

Jelly and jam serve as a means of preserving fruit because their high sugar content allows them to be stored at room temperature for months without spoiling. However, uncooked or low-sugar jelly and jam must be refrigerated because they do not contain enough sugar to prevent them from spoiling. Margaret McWilliams

Jellyfish is the common name of a type of sea animal that biologists call a *medusa.* Jellyfish range in size from *species* (kinds) that are no larger than a pea to an arctic jellyfish that may be about 7 feet (2.1 meters) in diameter. Jellyfish get their names from the jellylike material between the two layers of cells that make up the animal's body. This substance serves as a skeleton to support the fragile body wall and to help the jellyfish maintain buoyancy in the water.

The jellyfish body looks like a bell or umbrella. A short tube, which contains the mouth, hangs from the center of the body like a bell clapper. The edges of this tube form four frilly projections called *oral arms.* Another group of projections, called *tentacles,* hang down from the edges of the body. Each kind of jellyfish has a certain number and length of tentacles.

Jellyfish are classified as *cnidarians,* a phylum that includes corals, sea anemones, and hydras. Large jellyfish make up the class *Scyphozoa* (pronounced *sy fuh ZOH uh*) and are called *scyphozoan jellyfish.* Scyphozoan jellyfish are often seen at the coast and are sometimes called *sea nettles.* About the size of a soup bowl, they may be pale orange, pink, blue, or other colors.



Robert E. Pelham, Bruce Coleman Inc.

The jellyfish has no bones. Instead, its body, shaped like an open umbrella, is supported by a thick layer of a jellylike substance called *mesogloea.* The jellyfish's tentacles contain stinging cells that inject a paralyzing poison into its prey.

Jellyfish swim by expanding the body like an opening umbrella, then pulling it together again rapidly. This squeezes water out from beneath the body and the jellyfish moves upward. When these movements stop, the jellyfish sinks to the ocean floor. On its way down, it catches small animals that touch its tentacles or oral arms. These parts contain stinging cells that explode when touched, driving tiny *toxic* (poisonous) threads into the victim and paralyzing it. The victim is then passed to the mouth of the jellyfish and swallowed.

Some jellyfish can inflict painful and even dangerous stings to people. Jellyfish called *sea wasps* inject their victims with a poison that is deadlier than any snake



Bob and Valerie Taylor, Bruce Coleman Inc.

The sea wasp is a jellyfish found mainly in the waters of the Great Barrier Reef off the coast of Australia. A severe sting from a sea wasp can kill a person within three minutes.

venom. Some people have died less than three minutes after being stung by a sea wasp. Sea wasps are found near the coasts of northern Australia and the Philippines.

Scyphozoan jellyfish produce their young from eggs. Each egg develops into a tiny *polyp,* a stage in which the animal looks like a hollow cylinder. The polyps attach themselves to the sea bottom. The jellyfish grow from the polyps by a process called *budding.* They are arranged on each polyp like a stack of saucers. The jellyfish, when they reach a certain size, detach from the polyp and develop into adult jellyfish. L. Muscatine

Scientific classification. Jellyfish belong to the phylum Cnidaria. Large jellyfish make up the class Scyphozoa. Most small jellyfish belong to the class Hydrozoa.

See also Animal (picture: Animals of the oceans); **Hydra; Portuguese man-of-war; Sea anemone.**

Jemison, Mae Carol (1956-), an American astronaut and physician, became the first black woman to travel in space. In September 1992, she made an eight-day flight on the spacecraft Endeavour. Aboard the spacecraft, Jemison conducted the first experiment that fertilized frog eggs in space. She also studied the loss of bone tissue experienced by people and other animals in orbiting spacecraft. Her research was aimed at determining how gravity affects the development of complex organisms.

Jemison was born in Decatur, Alabama, and moved to Chicago as a young child. She earned a degree in chemical engineering from Stanford University in 1977 and a medical degree from Cornell University in 1981. From 1983 until 1985, she was the Area Peace Corps Medical Officer for Sierra Leone and Liberia. In March 1993, Jemison resigned from the astronaut program. She became the director of the Jemison Institute for Advancing Technology in Developing Countries at Dartmouth College. Lillian D. Kozloski



NASA

Mae Carol Jemison

Jemison, Mary (1743-1833), was called "The White Woman of the Genesee." She was born at sea while her parents were coming from Ireland to America. The family settled on a farm in Pennsylvania. A party of Indians and French soldiers captured the family in 1758. Her parents were killed. Like most children who were taken captive, Mary was adopted into an Indian family. She became a member of the Seneca tribe. She grew up with the Indians and refused to return to white society. She married Indian men twice. Her second husband was a chief. Jemison lived near the Genesee River in colonial New York. When white settlers moved nearby, they became interested in her life story. In 1831, she moved to the Buffalo Creek Reservation. Fred W. Anderson

Jenghis Khan. See Genghis Khan.

Jenifer, Daniel of St. Thomas (1723-1790), was a Maryland signer of the Constitution of the United States. He attended nearly every session of the Constitutional Convention in 1787. Jenifer did not play a leading role in the debates, but he consistently supported efforts to develop a strong national government.

Jenifer was born in Charles County, Maryland. The origin of his given name is uncertain. He became a wealthy planter. Jenifer achieved early prominence as an agent for Maryland's last two *proprietors* (owners of the colony).

From 1775 to 1777, Jenifer was president of the Maryland Council of Safety. This council directed Maryland's resistance to Britain during the first two years of the Revolutionary War in America (1775-1783). In 1777, Jenifer was made the first president of the Maryland Senate. From 1778 to 1782, he was a member of the Second Continental Congress and the Congress of the Confederation. Joan R. Gundersen

Jenkins, Roy Harris (1920-), is a British political leader and author. Since 1987, he has been chancellor of Oxford University.

Jenkins served in the House of Commons from 1948 to 1976 as a member of the Labour Party. He was also chancellor of the exchequer from 1967 to 1970 and home secretary from 1965 to 1967 and from 1974 to 1976. From 1977 to 1981, he served as president of the Commission of the European Community, an economic organization that was later incorporated into the European Union. In 1981, Jenkins quit the Labour Party. He helped form the Social Democratic Party and then led it in 1982 and 1983. In 1982, he won election to the House of Commons as a member of the Social Democratic Party. In 1987, he lost his seat in the House of Commons.

Jenkins was born in Abersychan, Wales, near Merthyr Tydfil. He graduated from Oxford University. Jenkins has written several books, including *Mr. Balfour's Poodle* (1954) and *Asquith: Portrait of a Man and an Era* (1964).

Richard Rose

Jenne, *jeh NAY,* also called *Djenné,* is a small city in Mali. From the 1200's to the 1700's, it was one of the centers of Muslim civilization in West Africa. For location, see **Songhai Empire** (map).

Jenne was protected from military attack by high river waters during the rainy season and by a wall. Salt from desert mines and cloth, copper, and silver from north of the Sahara were traded in Jenne for gold, kola nuts, leather, and other products of regions south of the desert. Jenne had a school that was famous in the study of law, medicine, and Islam. Lansiné Kaba

See also **Sunni Ali.**

Jenner, Bruce. See **Decathlon.**

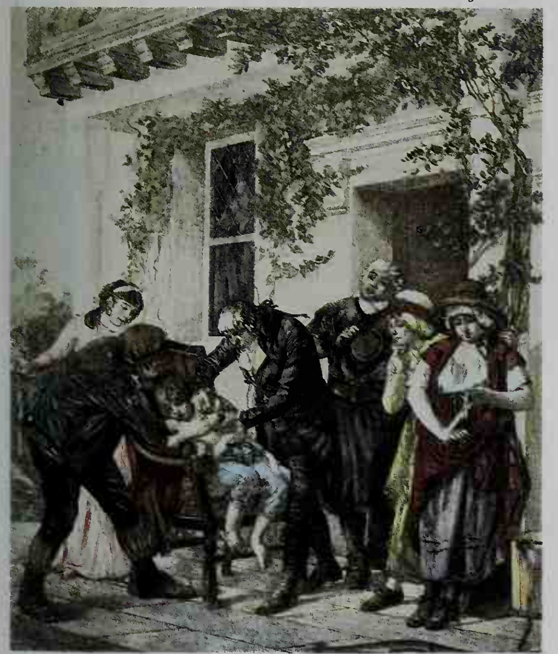
Jenner, Edward (1749-1823), a British physician, discovered vaccination as a means of preventing smallpox. Before his time, no parents counted their children safe until all had passed through smallpox. This disease was an ever-present horror through the centuries (see **Smallpox**).





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Granger Collection



Edward Jenner, *right,* gave the first vaccination for smallpox to James Phipps in England in 1796, *below.* Jenner used cowpox matter that had been taken from the infected hand of Sarah Nelmes, *below right.* He risked his medical reputation in attempting the vaccination.

It was common knowledge in Jenner's time that a person could catch smallpox only once. Many people tried to inoculate themselves with matter from smallpox sores. They hoped to catch a light case of the disease, and then be immune to it for the rest of their lives. Lady Mary Wortley Montagu, an English author, had introduced this method into England in 1718. But the method was dangerous.

Jenner's work. Jenner began experimenting in his home town, Berkeley, Gloucestershire. Many people there believed that dairymaids who had caught cowpox could not catch smallpox. Cowpox is a minor disease that causes a few sores on the hands but carries little danger of disfigurement or death. In 1796, Jenner took matter from the hand of Sarah Nelmes, a local dairymaid. She had become infected with cowpox while milking the cows. Jenner then made two cuts on the arm of James Phipps, a healthy eight-year-old boy, and inserted the matter from one of Sarah's cowpox sores. The boy then caught cowpox. Forty-eight days later, Jenner introduced smallpox matter into the boy's arm. Ordinarily fatal, the smallpox matter had no effect, because the boy had been *vaccinated* with cowpox matter. Jenner's experiment proved to be successful. This was the first vaccination ever given.

Recognition. After several more experiments, Jenner published *Inquiry into the Causes and Effects of the Variolae Vaccinae* (1798). He then went to London to make his discovery known to the medical world. In 1799, he published *Further Observations on the Variolae Vaccinae or Cowpox,* which he wrote chiefly as a reply to people who opposed vaccination. After 1800, vaccinations became accepted as a means to prevent smallpox.

Honors came to Jenner from all parts of the world. Parliament granted him 10,000 pounds in 1802, and another 20,000 pounds in 1806, because he devoted so much of his time to his discovery that he lost income from his regular medical practice. Oxford University conferred an honorary Doctor of Medicine degree on Jenner in 1813.

Jenner was born on May 17, 1749, in Berkeley, Gloucestershire. In 1770 he went to London to study medicine under John Hunter, a British surgeon, and at Saint George's Hospital in London. He returned to Berkeley, where he began practicing medicine, and he remained there most of his life. Audrey B. Davis

See also **Medicine** (The development of immunology).

Jenner, Sir William (1815-1898), a British physician, studied certain acute communicable diseases and did much to advance their treatment. His most important contribution was his emphasis on the difference between typhoid fever and typhus (see **Typhoid Fever; Typhus**). Jenner's efforts have made possible a more practical treatment of these diseases. His works include the papers "On the Identity and Non-Identity of Typhoid Fever" and "Diphtheria, Its Symptoms and Treatment," as well as clinical lectures.

Jenner was born in Chatham, England, and was graduated from University College, London. He later taught there. He served as president of the Royal College of Physicians from 1881 to 1888. He became an extremely

successful and prominent practitioner in the field of medicine. Eric Howard Christianson

Jennet. See Donkey.

Jenney, William Le Baron (1832-1907), was an American architect and engineer. He designed the Home Insurance Building in Chicago, often considered the world's first metal-frame skyscraper. It was built in 1884 and 1885 and torn down in 1931. To support the building's upper floors, Jenney's design used metal columns and beams, rather than traditional stone and brick. This method greatly reduced the building's weight, making it possible to build taller structures.



Bettmann Archive

William Le Baron Jenney

Jenney was born on Oct. 25, 1832, in Fairhaven, Massachusetts. In 1868, he established an office in Chicago, specializing in commercial buildings. During the 1870's, he trained several men who later became leaders of a style of architecture called the *Chicago School.* They included Daniel Hudson Burnham, William Holabird, Martin Roche, and Louis Henri Sullivan. Leland M. Roth

See also **Architecture** (Early modern architecture in America); **Chicago** (Architecture).

Jensen, *YEHN zuhn,* **J. Hans** (1907-1973), a German physicist, shared the 1963 Nobel Prize in physics with Maria Goeppert Mayer and Eugene Paul Wigner. Working independently, Jensen and Mayer prepared almost identical papers on the shell structure of atomic nuclei. They showed that atomic nuclei possess shells similar to the electron shells of atoms. The shells contain varying numbers of protons and neutrons. This allows a systematic arrangement of nuclei according to their properties.

Jensen was born June 25, 1907, in Hamburg, Germany. He studied at the University of Hamburg. From 1949 to 1973, he was director of the Institute of Theoretical Physics at the University of Heidelberg. Richard L. Hilt

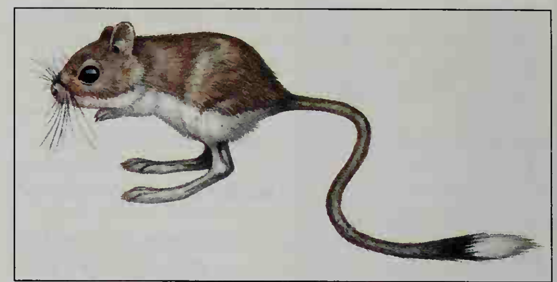
See also **Mayer, Maria Goeppert.**

Jenson, *JEHN suhn* or *zhahn SAWN,* **Nicolas** (1415?-1480), was a French printer who perfected roman-style type. In 1470, he designed a style of type that influenced nearly all later roman types.

Jenson was born in Sommevoire, France. In 1458, he went to Mainz, Germany, to study the process of printing books with movable type. Johannes Gutenberg had invented this process in Mainz a few years earlier (see **Gutenberg, Johannes**). After learning the art of printing, Jenson moved to Venice, Italy. There, he developed his style of roman type. Peter M. VanWingen

Jerboa, *juhr BOH uh,* is a mammal that looks like a tiny kangaroo. Jerboas are *fawn-colored* (light, yellowish-brown) and have pointed ears, buttonlike eyes, and long whiskers. Their front legs are short, and their hind legs are long and powerful. Jerboas usually walk on their hind legs. When frightened they speed away in bounding leaps, like kangaroos.

Jerboas are rodents. They belong to the same animal order as mice, rats, and squirrels. They live in deserts and dry areas in Africa, Asia, and eastern Europe. Jerboas live in groups in *burrows* (tunnels). They come out at night to look for food. They eat plants, seeds, and insects. In cold climates, jerboas *hibernate* (sleep through the winter).



WORLD BOOK illustration by John D. Dawson

The jerboa looks like a tiny kangaroo, but it is really a rodent. Like the kangaroo, the jerboa leaps away on its strong hind legs when startled, and it uses its long tail for balance.

Scientists have identified 25 *species* (kinds) of jerboas. The feather-footed jerboa, one of the most widespread species, is found from the central part of Russia through Mongolia to northern China.

Jerboas and *kangaroo rats,* which live in the United States, are so similar that it is hard to tell the two animals apart. They are an example of what biologists call *convergent evolution.* Study of the skulls and teeth of the two animals show that they had quite different ancestors. But, in the dry regions in which they live, similar features developed in both animals. See **Kangaroo rat.**

Clyde Jones

Scientific classification. Jerboas make up the jerboa family, Dipodidae. The feather-footed jerboa is *Dipus sagitta.*

Jeremiah, *jehr uh MY uh,* **Book of,** is a book of the Hebrew Bible, or Old Testament, named for an Israelite prophet. Jeremiah began prophesying about 627 B.C. He continued as a prophetic voice during the fall of the kingdom of Judah to the Babylonians and the destruction of Jerusalem and the Temple in 587 or 586 B.C. His prophecies also continued into the exile that followed. See **Jews** (Foreign domination).



Detail of a fresco (about 1510) by Michelangelo on the ceiling of the Sistine Chapel, Vatican City; SCALA/Art Resource

Jeremiah was an Israelite prophet whose sayings are found in the Book of Jeremiah in the Old Testament.

Jeremiah perceived, to his great sorrow and pain, that the sin of the people of Judah, like that of all nations, would bring about punishment. When he proclaimed this message and called for repentance, he was arrested and nearly lynched as a traitor. He survived the destruction of Jerusalem, and his prophecies became ones of comfort, restoration, and hope for a new moral order.

The Book of Jeremiah contains biographical narratives as well as Jeremiah's poetic prophecies. Much of what is known about Biblical prophets and prophecy comes from the book. Jeremiah consists of four main sections, collected during the prophet's life and in the century following. The first 25 chapters mostly record Jeremiah's haunting visions, oracles of judgment, and laments. Chapters 26 to 45 consist mostly of speeches by Jeremiah and stories about him. His prophecies against foreign nations make up the next six chapters. The last chapter is a historical appendix describing the fall of Jerusalem. Carol L. Meyers

Jericho, *JEHR uh KOH* (pop. 5,312), lies in the West Bank, a Middle Eastern territory inhabited chiefly by Palestinians (see **West Bank** [map]). Some scholars believe Jericho may have been settled as early as 8000 B.C. Settlements have been built on top of one another. In the Bible, the Israelites under Joshua marched around the city, then shouted and blew their trumpets so that the city walls fell down (see **Joshua**).

In 1967, Israel defeated Jordan, Egypt, and Syria in a war and occupied the West Bank and other Arab territory. In 1993, Israel and the Palestine Liberation Organization (PLO) signed an agreement that named Jericho as the first West Bank area to be given a form of Palestinian self-rule. In May 1994, Israeli occupation of Jericho ended and Palestinian control began. Peter Gubser

Jeroboam, *jer uh BOH uhm,* is the name of two kings who ruled the northern kingdom of Israel. This northern kingdom and a southern kingdom called Judah split apart after the death of King Solomon about 928 B.C.

Jeroboam I, the first ruler of the northern kingdom, reigned from about 928 to 903 B.C. He had been an official under Solomon, but he opposed Solomon's policies and took refuge in Egypt. After Solomon died and his son Rehoboam became king, the northern tribes rebelled and made Jeroboam their ruler (see **Solomon**). Jeroboam revived two ancient shrines—one at Bethel and one at Dan—to free his people from dependence on the religious center in Jerusalem, which was in Judah.

Jeroboam II ruled from about 785 to 745 B.C. His rule saw a revival of Israel's political power. The nation made economic advances but also experienced political corruption and oppression of the poor. J. Maxwell Miller

Jerome, Saint (about 340-420), was a great Biblical scholar of the Christian church. His most important achievement was his Latin edition of the Bible. Jerome's version, known as the *Vulgate,* served as the authorized translation of the Bible in the Roman Catholic Church for hundreds of years. Jerome produced many important religious works besides his Bible translation. In *Against Jovinian* (393-395), he defended chastity and the monastic life. In *Famous Men* (393-395), he listed 135 Christian authors and discussed their works. Jerome also wrote against the ideas of the British monk Pelagius and the early Christian philosopher Origen.

Jerome was born in Stridon in what is now Croatia. Jerome traveled to the Near East in the early 370's, staying for a time at Antioch, Syria (now Turkey). In the 370's, he lived for several years as a monk in the Syrian Desert. He then returned to Antioch and was ordained a priest there in 379.



Oil painting on wood panel (early 1400's) by Jan van Eyck; Detroit Institute of Arts, City Appropriation

Saint Jerome was a great Biblical scholar of the early church. A legend tells how he removed a thorn from a lion's paw. Many paintings show Jerome in his study with the lion at his feet.

In 382, Jerome moved to Rome, where he became secretary to Pope Damasus I. He left Rome after the pope's death in 384 and settled in Bethlehem in 386. There, he and Saint Paula founded monasteries for men and women and established a resthouse for travelers. Jerome's feast day is September 30. Marilyn J. Harran

See also **Bible** (The first translations); **Vulgate.**

Jersey, *JUR zee,* is the largest of the Channel Islands. It is the southernmost island of the group and lies off the west coast of Normandy—a region of France—in the English Channel. It has an area of about 45 square miles (117 square kilometers) and a population of about 80,000. For location, see **United Kingdom** (terrain map).

The island is known as the original home of purebred Jersey cattle. Farmers on the island grow early potatoes, tomatoes, and other vegetables. Jersey's fine sandy beaches make it a popular vacation resort. The island has its own legislature. The chief executive is a lieutenant governor appointed by the British ruler. The chief town of Jersey is St. Helier. D. Ian Scargill

Jersey is a plain, knitted fabric without *ribs* (ridges). It may be smooth or somewhat *napped* (hairy). Jersey was originally made from wool, but now it is made from a variety of fibers. It was first used to make clothing for fishing crews on the island of Jersey in the English Channel. Today, jersey is a common fabric. It is often used to make such garments as dresses, suits, lingerie, and sportswear. Keith Slater

See also **Textile** (Knitted fabrics).

Jersey City, *JUR zee,* New Jersey (pop. 240,055; met. area pop. 608,975), is a major seaport and industrial and transportation center of the New York City metropolitan area. It ranks second to Newark as the largest city in New Jersey. Jersey City is located across the Hudson River from New York City. For location, see **New Jersey** (political map).

During the 1630's, Dutch settlers arrived in what is now the Jersey City area. The English took control of the area in 1664. They named the city for Jersey, the largest of the Channel Islands in the English Channel off the coast of France.

Description. Jersey City is the county seat of Hudson County, and its land area covers about 15 square miles (39 square kilometers). It is the home of New Jersey City University and St. Peter's College. Old Bergen Church, a landmark of the city, was completed in 1660.

Economy. Jersey City has about 500 factories. Its leading industries produce chemicals, clothing, electrical equipment, food products, paper products, and textile products.

Much traffic to and from New York City passes through Jersey City. Tunnels under the Hudson River serve cars, buses, trucks, and trains traveling between the two cities. Millions of motor vehicles use the Holland Tunnel yearly. The Pulaski Skyway connects Jersey City and Newark. The Jersey City waterfront has a large terminal for container cargo. The terminal is part of a development called Port Jersey.

Government and history. Jersey City has a mayor-council form of government. The voters elect the mayor and the nine council members to four-year terms.

Delaware Indians lived in what is now the Jersey City area before the Dutch set up a trading post there in the 1620's. The post grew into a settlement that became known as Paulus Hook.

The community was incorporated as Jersey City in 1820. Two railroad terminals were established there in 1834 and helped bring industry to the area. That same year, a treaty made the middle of the Hudson River the boundary between New York and New Jersey and gave Jersey City control of its own waterfront. Rapid industrial growth caused the city's population to rise from 6,856 in 1850 to 29,226 in 1860.

The Hudson Tubes, the first railroad tunnel between Jersey City and New York City, linked the cities in 1909. The Holland Tunnel opened in 1927. Frank Hague, one of the nation's last city political "bosses," served as mayor of Jersey City from 1917 until 1947. The city's population reached 299,017 in 1950. The population declined from the 1950's through the 1980's because many people and businesses moved to the suburbs. During the 1990's, however, the population increased.

The Journal Square Transportation Center, which consists of a rapid transit railroad station, bus terminal, and shopping area, opened in 1974. In the 1980's, Jersey City began an extensive redevelopment program. This program, continuing into the 2000's, has increased the city's affordable commercial and residential space and has attracted many corporations to the city. Robert M. Hordon

Jersey Lily. See **Langtry, Lillie.**

Port Authority of New York and New Jersey



Jersey City lies across the Hudson River from New York City. Jersey City is the second largest city in New Jersey and a major industrial and commercial center of the New York City metropolitan area.



© Rafael Macia, Photo Researchers

Jerusalem is the capital of Israel and the country's largest city. This view shows Jerusalem from the east as seen from the Mount of Olives. A Muslim cemetery appears in the foreground. The golden Dome of the Rock, a Muslim shrine, rises above the walls of the Old City, Jerusalem's oldest district.

Jerusalem

Jerusalem is the capital and largest city of Israel and one of the world's holiest cities. It is also one of the oldest continuously inhabited cities in the world. For centuries, Jerusalem has been a spiritual center to Jews, Christians, and Muslims. Jews consider Jerusalem a holy city because it was their religious and political center during Biblical times. Christians consider Jerusalem holy because many events in the life of Jesus Christ took place there. Muslims also revere the city and believe that the Prophet Muhammad rose to heaven from there.

About 70 percent of Jerusalem's population are Jews. The remainder is mostly Muslims, plus a small number of Christians, including Roman Catholics, Eastern Catholics, Protestants, and members of Eastern Orthodox Churches.

Jerusalem is a city of three Sabbaths—Friday (Muslim), Saturday (Jewish), and Sunday (Christian). Businesses in Jerusalem may be closed on any of these three days. The Jewish Sabbath, however, is by far the most widely observed. After it begins on Friday night, much of Jerusalem closes down and most public transportation stops.

Jerusalem lies about 40 miles (64 kilometers) east of the Mediterranean Sea. The city is surrounded on the north, east, and south by the West Bank, a disputed territory inhabited by both Palestinians and Israelis. In 1949, at the end of the first Arab-Israeli War, Jerusalem was divided between Israel and Jordan. Israel controlled the

Bernard Reich, the contributor of this article, is Professor of Political Science and International Affairs at George Washington University.

Facts in brief

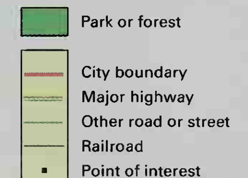
Population: 567,100.
Area: 41 sq. mi. (107 km²).
Altitude: About 2,500 ft. (760 m) above sea level.
Climate: *Average temperature*—January, 55 °F (13 °C); July, 85 °F (31 °C). *Average annual precipitation* (rainfall, melted snow, and other forms of moisture)—22 in. (56 cm).
Government: *Chief executive*—mayor; elected by the people to a four-year term. *Legislature*—Municipal Council of 31 members; elected by the people to a five-year term.

© George Chan, Photo Researchers

The Western Wall in the Old City is the holiest site in Judaism. The wall was part of the Second Temple built by Herod and destroyed by the Romans in A.D. 70. Jews from throughout the world come to pray at the wall and insert messages and prayers in its crevices.

WORLD BOOK maps

Jerusalem

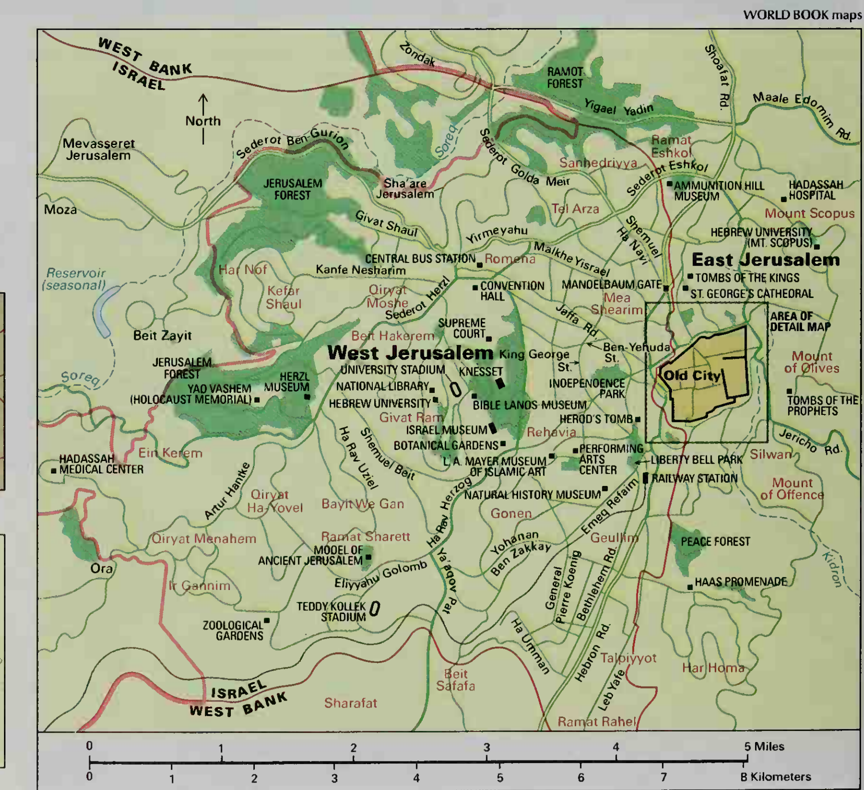




Location of Jerusalem



Area of Jerusalem



western part of the city. Jordan controlled the eastern section, including the Old City, a walled section of Jerusalem dating from Biblical times. Israel took control of the entire city in 1967. Jerusalem today is claimed by both the Palestinians and the Israelis as their capital.

The city

Jerusalem lies on hilly, rocky land in the Judean Hills. The city is divided into three sections: (1) the Old City; (2) West Jerusalem, also called the New City; and (3) East Jerusalem.

The Old City, which occupies much of the area of Biblical Jerusalem, is the historical heart of the city. It covers a rectangular area of about $\frac{1}{3}$ square mile (1 square kilometer) in the eastern part of Jerusalem.

The Old City is enclosed by stone walls about 40 feet (12 meters) high and $2\frac{1}{2}$ miles (4 kilometers) long. Although Jerusalem has always been a walled city, its present walls were built during the 1500's. Some sections of its foundation are much older. A number of gates open into the walls, including the Jaffa Gate, Zion Gate, Dung Gate, Lion's Gate (also known as St. Stephen's Gate), Damascus Gate, New Gate, and Herod's Gate (also known as Flower Gate). Until the late 1800's, these gates were closed at night to protect inhabitants.

The skyline of the Old City is dominated by a Muslim shrine known as the Dome of the Rock. The shrine stands on a raised area called the Temple Mount, the site of the first and second Jewish Temples in ancient times.

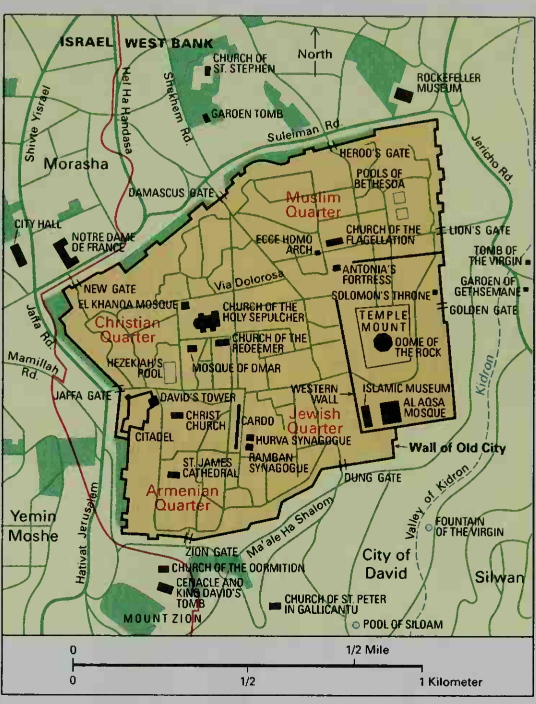
The Old City is divided into four neighborhoods—the Armenian, Christian, Jewish, and Muslim quarters. The Armenian quarter is occupied primarily by members of the Armenian Church, an Eastern Orthodox Church. The largest religions in the Christian quarter are the Roman Catholic Church and Greek Orthodox Church. Most inhabitants of the Jewish and Muslim quarters are followers of Judaism and Islam, respectively.

The narrow cobblestone lanes that wind through the Old City have remained largely unchanged for hundreds of years. Houses, many with inner courtyards, stand crowded together. The busiest streets are the *suqs* (markets), which have small, windowless shops that sell food, pottery, jewelry, and souvenirs. Most of the streets are too narrow for automobiles. Donkeys and pushcarts transport heavy loads.

From 1948 to 1967, the Old City was under the control of Jordan. The area had a poor sanitation system and inadequate supplies of electric power and water. After Israel took control in 1967, it expanded public services into the Old City, including modern electric and water systems, garbage collection, and social welfare programs.

West Jerusalem is the most modern part of the city. The main downtown area of Jerusalem centers on a triangle formed by King George Street, Jaffa Road, and Ben-Yehuda Street in West Jerusalem. Fashionable shops, hotels, restaurants, and tall office buildings line these streets.

Several modern public buildings in West Jerusalem are located in a neighborhood called Givat Ram. Among them are buildings on the new campus of Hebrew University of Jerusalem. Near the campus are the Knesset (parliament) and the Supreme Court.



WORLD BOOK map

The Old City, in eastern Jerusalem, contains many sites sacred to Christianity, Islam, and Judaism. The city is divided into the Armenian, Christian, Jewish, and Muslim quarters.

A neighborhood known as Mea Shearim, north of downtown, is the home of many Orthodox Jews. It has dozens of small synagogues and study houses.

To the southwest is a picturesque area called Ein Kerem. The huge Hadassah Medical Center stands nearby, with its famous stained glass windows designed by the Russian-born artist Marc Chagall. Also in the area is Yad Vashem, a memorial museum dedicated to the victims of the Holocaust, the Nazi campaign to exterminate the Jews.

East Jerusalem, north of the Old City, is where most of Jerusalem's Arabs live. Many Arab restaurants and shops are located in this part of the city. Some neighborhoods in East Jerusalem are run-down, with old, neglected housing. Other areas in East Jerusalem are more modern. Israel built several modern Jewish neighborhoods, including Ramat Eshkol and Gilo, after taking control of East Jerusalem in 1967. There are also modern buildings on the original campus of Hebrew University on Mount Scopus, which was rebuilt and expanded in the 1970's.

Holy places

Jerusalem has a central place in the worship, doctrine, and daily practice of Judaism, Christianity, and Islam. The city's large number of synagogues, churches, mosques, and other religious institutions reflects the significance of the city for all three faiths. Each religious community supervises its own holy sites.

Jewish sites. According to tradition, Jerusalem is where God ordered the patriarch Abraham to sacrifice



The Church of the Holy Sepulcher is in the Christian Quarter of the Old City. The church stands on Calvary, the site where, according to Christian tradition, Jesus Christ was crucified. Much of the present church dates back to the 1100's.

his son, Isaac, to Him. The Jews built their Temple, the center of Jewish worship in ancient times, at the site of Abraham's sacrifice on the Temple Mount in the Old City. Two successive buildings, the First Temple and the Second Temple, stood at the site. The First Temple housed the Ark of the Covenant, a sacred chest holding the tablets inscribed with the Ten Commandments.

The Western Wall is the only surviving part of the Second Temple and Judaism's most sacred shrine. It is a stone retaining wall that reinforced the western side of the Temple Mount in ancient times. The wall is sometimes called the *Wailing Wall* because of the sorrowful prayers said there to mourn the destroyed Temple.

Other sites in the city sacred to the Jews include King David's tomb on Mount Zion in West Jerusalem, and the Jewish Cemetery and the Tombs of the Prophets on the Mount of Olives, a hill just east of the Old City. Many sites associated with Biblical figures are sacred to Christians, too.

Christian sites. Many monasteries, convents, shrines, and religious seminaries in Jerusalem mark events in the life of Jesus Christ and in the formation of the Christian Church. Jesus taught in Jerusalem and performed numerous miracles there. The Last Supper supposedly took place in a room known as the Cenacle (also called *Coenaculum)* on Mount Zion. The Church of the Holy Sepulcher in the Old City occupies the site said to be the place of Jesus's Crucifixion (called Calvary or Golgotha), as well as His burial and Resurrection. Several Christian sects share custody of the church, which was originally built by Constantine the Great, then rebuilt and dedicated by the Crusaders in A.D. 1149. The building stands at the end of the Via Dolorosa (Way of Sorrows), believed to be the path over which Jesus carried His cross to Calvary. Jesus was last seen by His followers on the Mount of Olives before He ascended to heaven. All of these sites attract many religious pilgrims each year.

Islamic sites. Jerusalem is Islam's third holiest city, after Mecca and Medina in Saudi Arabia. According to tradition, the Prophet Muhammad originally selected Jerusalem as the *qibla*, the direction the faithful should face during prayer. However, the prophet redirected his followers to face Mecca instead of Jerusalem when praying, to symbolize the independence of Islam. This change helped ease the tension that had existed between Muslims and Jews. Muhammad is said to have ascended to heaven from a stone now enclosed by a golden-domed shrine called the Dome of the Rock. The Dome of the Rock and an ancient mosque called Al Aqsa Mosque rank among the holiest sites in Islam. They form the central features of the Temple Mount, which Muslims call the Haram ash-Sharif (Noble Sanctuary).

The people of Jerusalem

Nearly three-fourths of Jerusalem's people are Jews. Palestinian Arabs make up nearly all the remaining one-fourth of the population. Generally, Jews live in West Jerusalem and Arabs in East Jerusalem. Growing numbers of Jews also live in new neighborhoods in East Jerusalem. The central business district, in West Jerusalem, is almost entirely Jewish, and the markets of the Old City are mostly Arab. The most common languages are Hebrew, Arabic, and English.

The population of Jerusalem has grown substantially



Israel Ministry of Tourism

The Cardo in the Jewish Quarter of the Old City is a street dating back to Roman and Byzantine times. The original Cardo was a wide avenue of columns and roofed arcades. At one time the Cardo ran the entire length of the city. It is now the main entry to the Jewish Quarter from the Christian and Muslim sections of the Old City.

Israel Ministry of Tourism

Ben-Yehuda Street is a popular commercial area in downtown Jerusalem. The portion of the street shown above is a mall closed to automobile traffic. Residents of Jerusalem and tourists visit the street for its shopping and to relax at the area's many cafes and restaurants.



Israel Ministry of Tourism

An Arab market in the Old City attracts shoppers seeking traditional arts and crafts. This street is known as the Via Dolorosa (Way of Sorrows). According to Christian tradition, Jesus Christ carried His cross down this street on the way to His Crucifixion.

since Israel became independent in 1948. The city continues to add to its population through both natural growth and immigration. Only about half of Jerusalem's people are native-born Israelis. Many others are Jews who have immigrated to Israel from countries around the world. Large numbers have come from Poland, Russia, and other Eastern European countries; from other Middle Eastern countries; and from northern Africa, including Ethiopia. As a result, Jerusalem's Jewish citizens represent a mixture of cultures and nationalities.

Jerusalem's Jewish citizens also differ in the extent to which they follow the laws and practices of Judaism. Some people, called *secular Jews,* have a strong sense of Jewish identity but observe few religious traditions. A group of extremely traditional Orthodox Jews called *haredim* (pronounced *hah ray DEEM*) make up about a third of Jerusalem's Jews and are the fastest-growing group in the city. Many haredim follow ways of life that developed among Jewish communities in Eastern Europe, Spain, and North Africa hundreds of years ago. Many of these haredim speak a Germanic language called Yiddish along with Hebrew and dress in traditional styles of the 1800's. Many of the men wear long black coats, black or fur-trimmed hats, and beards or dangling side curls. The women typically wear long coats and dresses, black stockings, and headscarves or wigs to follow religious laws that call for modesty.

Confrontations have occasionally developed between Jews of different religious convictions over observances of Jewish law. Many extremely religious Jews believe that only a life of prayer and religious study is proper for the holy city. For example, they have protested the opening of nonkosher restaurants. They also have demanded that their neighborhood streets be closed to traffic during the Jewish Sabbath, from sundown Friday to sundown Saturday. Some haredim do not even recognize the state of Israel. They believe that only the Messiah, whom God will send, can establish the Jewish state.

Architecture

Jerusalem's architecture is a mixture of old and new. The Old City contains architectural examples from each major period in the city's history. Many ancient historical sites and places of worship stand near modern shopping centers and industrial zones. Architecture from the late 1800's and early 1900's displays European influences. Usefulness rather than style characterizes new apartment buildings constructed by the government as housing for immigrants. Many buildings, old and new, have matching exteriors because all construction is re-



Mea Shearim is a center of Orthodox Jewish life in Jerusalem. The neighborhood lies near downtown Jerusalem. In addition to apartments, Mea Shearim includes many religious schools called *yeshivas* as well as stores that sell religious books and religious articles.

Israel Ministry of Tourism

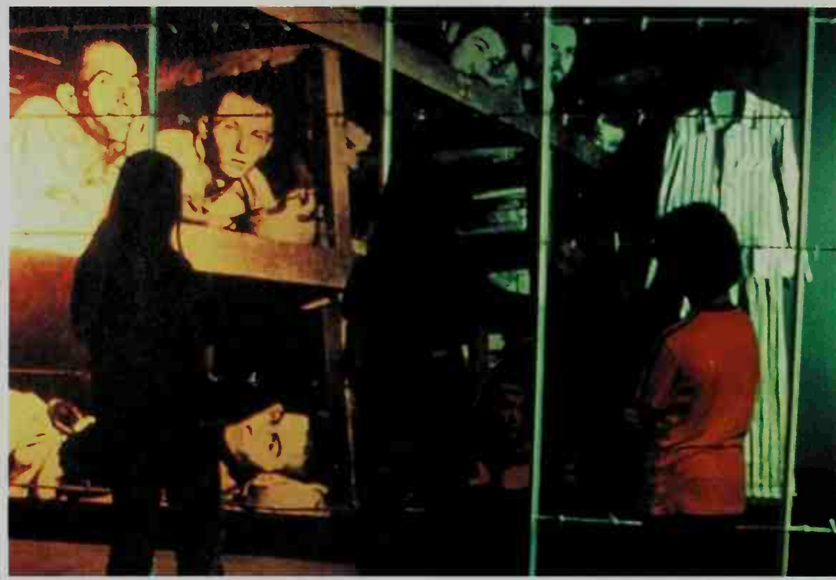
quired to be faced with a cream-colored limestone called *Jerusalem stone,* produced by nearby quarries.

Culture

Jerusalem can be described as a vast open-air museum because of the many archaeological sites throughout the area. The city also has many indoor museums, some dealing with the city's Biblical history. Notable museums include the Rockefeller Museum and the Bible Lands Museum, both famous for their archaeological treasures; the L. A. Mayer Museum of Islamic Art, which displays Islamic textiles, pottery, and other arts and crafts; and the Israel Museum, which has collections of fine art and archaeology. The Israel Museum includes a white-

© Esaias Baitel, Gamma/Liaison

Housing developments have been constructed on the outskirts of Jerusalem to accommodate the large population increase in the city since the 1967 war. The distinctively designed development called Ramat Polin, *above,* in northwestern Jerusalem houses many Orthodox Jewish families. A shortage of housing ranks among Jerusalem's major social problems.



Israel Ministry of Tourism

Yad Vashem is a memorial in western Jerusalem to the Jews who were killed during the Holocaust, the mass murder of European Jews by the Nazis. The memorial includes an archive, a shrine, a monument, the Avenue of the Righteous Gentiles, and a Museum of Holocaust Art. The scene at the left comes from the permanent exhibition at Yad Vashem called "Warning and Witness," which illustrates the horrors of the Nazi period.

domed building with black walls, called the Shrine of the Book, where several of the ancient manuscripts called the Dead Sea Scrolls are exhibited.

Jerusalem is a major educational center. Students from throughout the world attend seminaries there to become rabbis, ministers, priests, or Islamic religious leaders. Jerusalem's Islamic seminaries are supported by Muslim foundations called *waqfs* (pronounced *wuhkfs),* which receive income from endowed land and other property throughout the Islamic world. The foundations also support Islamic law schools, prayer rooms, colleges, orphanages, homes for the poor, public fountains, baths, mosques, and tombs. Jerusalem also has many schools called *yeshivas* for study of the Talmud, a collection of Jewish religious and civil laws. Hebrew University of Jerusalem offers courses in many areas of scholarship but is especially famous for science and Jewish studies.

The Jerusalem Symphony Orchestra plays regular concerts at Henry Crown Symphony Hall. Music lovers can also enjoy concerts by chamber music ensembles and choirs, and performances by several dance companies. Night life flourishes at many of the city's restaurants and cafes, and at motion-picture theaters. Local and international festivals provide a wide variety of cultural events that range from opera and theater to classical music and rock music.

Economy

Tourism is Jerusalem's main economic activity. The city has hundreds of hotels, restaurants, travel agents, taxis, and guides to serve tourists.

Construction has become a major source of employment as the city continues to grow. Jerusalem is also the headquarters of many technology companies and government-related activities.

Jerusalem has almost no heavy industry but does have some modern factories. Most factories are in West Jerusalem. They produce chemicals, clothing, leather goods, machinery, and plastics. There are also printing, diamond-polishing, and food-processing industries. Older handicraft industries include embroidery, pottery and glassware, silverwork, and wood carvings.

Government

After Israel took control of East Jerusalem and the Old City in 1967, the Knesset established Jerusalem as a single city under Israel's administration. The citizens of Jerusalem elect a 31-member Municipal Council for five-year terms. The citizens elect the city's mayor for a four-year term.

History

Ancient times. Jerusalem's origin dates back about 4,000 years. About 1,000 B.C., King David captured the city from a people called the Jebusites and made it the capital of the Israelites. David's son, King Solomon, built a magnificent place of worship, the First Temple, in his capital city. Solomon also built a great palace complex consisting of many buildings. After Solomon died in about 928 B.C., his kingdom split into a northern kingdom called Israel and a southern kingdom called Judah. Jerusalem remained the capital of Judah.

In 587 or 586 B.C., the Babylonians conquered Judah, destroyed Solomon's Temple, and took many Jews to Babylonia as captives. In 538 B.C., Cyrus the Great, king of Persia, allowed the Jews to return to Jerusalem after he conquered the Babylonians. The returning Jews then rebuilt their center of worship, the Second Temple.

By about 400 B.C., priests and scribes of the Temple had established laws governing Jerusalem. They helped the city recover as a religious center. Alexander the Great of Macedonia conquered King Darius III of Persia in 331 B.C. and took control of Judah in 332 B.C. Alexander and the kings who succeeded him granted administrative power to the priests and allowed the Jews to follow their own religion. But in 168 or 167 B.C., King Antiochus IV tried to stop the practice of Judaism. He angered the Jews by dedicating the Temple to the Greek god Zeus. The Jews, led by the warrior Judah Maccabee, overthrew Antiochus. About 165 B.C., the Jews recap-

tured the Temple and rededicated it to God. Judah Maccabee's family, the priestly Hasmoneans, established an independent state that lasted about 80 years.

Roman rule. In 63 B.C., the Roman general Pompey the Great captured Jerusalem and made it part of the Roman Empire. In 54 B.C., the Roman general Marcus Licinius Crassus stole the Temple's funds. The Romans named Herod the Great king of the Jews, and he took control of Jerusalem in 37 B.C. Herod began a huge building program and made major architectural changes in the city. He also restored the Temple.

Beginning in A.D. 6, Judea (the Roman name for Judah) had no king. Jerusalem was ruled by a Roman *procurator* (administrator). Roman rule was generally peaceful, but riots were sometimes set off by leaders who claimed to be sent by God to preserve Judaism. The Romans arrested most of these leaders, who were called *Zealots,* and crucified them. Jesus of Nazareth arrived in Jerusalem in about A.D. 28 and declared the coming of the Kingdom of God. His followers believed He was the Messiah. But Jewish leaders said He had *blasphemed* (insulted God). They brought Him before the Roman procurator, Pontius Pilate, who sentenced Him to be crucified.

Roman rule became harsh, and the Jews, led by the Zealots, began a major revolt in A.D. 66. They seized Jerusalem and held it until the Roman general Titus retook it in A.D. 70. The Romans destroyed the Temple and much of the city's fortifications. Only part of the Western Wall of the Temple Mount remained. Many Jews died during the siege. Survivors were either executed or enslaved and exiled.

Jerusalem remained largely uninhabited until about 130, when the Roman emperor Hadrian announced plans to build a Roman city on the site. He renamed the city Aelia Capitolina and built temples to Roman gods, including one to the god Jupiter on the Temple Mount. The Jews, led by a warrior named Bar Kokhba, rebelled again in 132 and recaptured the city. Hadrian drove out the rebels three years later and tried to end all Jewish hope of regaining Jerusalem by prohibiting Jews from visiting or living there. But the city's importance as a spiritual center continued.

By the early 300's, the ban against Jews visiting the city was no longer strictly enforced. After Constantine the Great became the sole emperor in 324, he made Christianity the official religion of the Roman Empire. He replaced Jerusalem's Roman structures with Christian monuments and built several churches there, including the Church of the Holy Sepulcher. He also restored Jerusalem as the city's name.

In 395, the Roman Empire split into the West Roman Empire and the East Roman Empire, also called the Byzantine Empire. Jerusalem became part of the Byzantine Empire.

Muslim rule. In the early 600's, control of Jerusalem changed three times. First, Persian troops captured the city and held it from 614 to 629. Byzantine forces regained control but lost Jerusalem again in 638, this time to Muslim Arabs. The Caliph Abd al-Malik constructed the Dome of the Rock, which was completed in 691.

During the 900's and 1000's, a number of Muslim groups fought for control of Jerusalem. In 1099, the Crusaders, who were European Christians, captured Jerusalem from the Muslims in the First Crusade. The Crusaders killed both Muslims and Jews and established a Crusader state called the Kingdom of Jerusalem. Jerusalem served as capital of the kingdom until 1187, when the Muslim leader Saladin reconquered the city. Saladin repaired the city walls, and Muslims and Jews returned to the city in large numbers. Except for a brief period in the 1200's, Jerusalem remained under Muslim control for more than 700 years. The city was controlled by the Mamelukes, Muslims from Egypt, from 1250 to 1516. Then the Ottoman Empire, a Muslim empire centered in what is now Turkey, took the city.

Under the Ottoman Empire, Jerusalem began to grow. At first, most of the city's population were Muslims, and even Christians greatly outnumbered Jews. However, increasing numbers of Jews immigrated to the city. By about 1870, Jews had become the majority group.

By the mid-1800's, construction had spread outside of the walls of the Old City. New communities in West Jerusalem included Yemin Moshe, constructed in 1860 with the financial assistance of Sir Moses Montefiore, a Jewish philanthropist from England. Orthodox Jews built several neighborhoods north and west of the Old City, particularly Mea Shearim, established in the mid-1870's. Many haredim still live there. Christian and Muslim groups also built new communities outside the walls.

British rule. In December 1917, during World War I, British troops under General Edmund Allenby captured Jerusalem and ended Ottoman control over the city. A month earlier, the British government had issued the Balfour Declaration, an official document supporting a national homeland for Jews in Palestine. The League of Nations, a forerunner of the United Nations, made Palestine a *mandated territory*—that is, an area administered by Britain, under the League's supervision, in preparation for self-government. The British administration of Palestine centered in Jerusalem. As a result, many new houses and government buildings were erected.

Jewish immigration to Jerusalem increased during the 1920's and 1930's. Two factors stimulated immigration. One was the increasing strength of the Zionist movement, which advocated a Jewish homeland in Palestine. The other was the rise of the Nazi regime in Germany, which had anti-Jewish policies. Many new Jewish neighborhoods, such as Rehavia and Beit Hakerem, were established, primarily in West Jerusalem.

Anti-Zionist feelings developed among the Arabs in Palestine who wanted to create an independent Arab state. By the 1930's, severe anti-Jewish riots had broken out in Jerusalem. In 1947, the British turned over the question of Palestine's future to the United Nations (UN). The UN voted to end the British mandate and divide Palestine between the Arabs and the Jews. Jerusalem would be an international city under UN control.

Arabs quickly responded to the UN resolution by attacking the Jews. In May 1948, British control ended and Israel declared its independence. Arab armies invaded the new state. Jerusalem's Old City came under heavy shelling. Many civilians were killed. By the end of 1948, Israeli soldiers held West Jerusalem, and Jordanian troops controlled East Jerusalem and the Old City. The loss of the Western Wall and other Jewish shrines bitterly disappointed the Israelis. Armistices between Israel and neighboring Arab countries ended the war in 1949.

In an agreement that Jordan (then called Transjordan) and Israel signed in 1948, the two countries established a border called "no man's land." This strip of land formed the frontier between Israeli and Jordanian territory. The border ran along the west wall of the Old City and extended north and south of the wall. Israel established its seat of government in West Jerusalem. However, many countries refused to recognize Jerusalem as Israel's capital because of the UN plan to make it an international city. These countries instead established their embassies in Tel Aviv, Israel's chief commercial, financial, and industrial center.

Israeli control. War again broke out between the Arabs and Israelis in June 1967. After a brief conflict that Israelis call the Six-Day War and others call the June War, Israel captured the Old City and East Jerusalem. Huge crowds of joyful Jews entered the Old City for the first time in 19 years to pray at the Western Wall. Israel extended the boundaries of Jerusalem to make East Jerusalem, the Old City, and nearby villages part of the city. The people of East Jerusalem were granted the same rights and responsibilities that all other Israeli residents had, and were given the opportunity to apply for Israeli citizenship.

In 1980, the Knesset passed a law restating Israel's position that Jerusalem is the capital of Israel. The law also guaranteed protection for the holy places of all religions and continued free access to them.

The future of Jerusalem remains one of the most complex and delicate issues in the Arab-Israeli conflict. The Palestine Liberation Organization, the political body that represents the Palestinian people, would like to establish an independent Palestinian state with Jerusalem as its capital. The Israeli government remains committed to keeping Jerusalem as both the Israeli capital and an undivided city. Bernard Reich

Related articles in *World Book* include:

Arab-Israeli conflict
Ark of the Covenant
Balfour Declaration
Bethlehem
Calvary
Crusades
Cyrus the Great
David
Gethsemane
Hezekiah
Israel
Jesus Christ
Jews
Judah Maccabee
Judea
Mandated territory
Mount of Olives
Muslims (picture)
Palestine
Saladin
Solomon
West Bank
Western Wall
Zion
Zionism

Outline

I. **The city**
   A. The Old City
   B. West Jerusalem
   C. East Jerusalem
II. **Holy places**
   A. Jewish sites
   B. Christian sites
   C. Islamic sites
III. **The people of Jerusalem**
IV. **Architecture**
V. **Culture**
VI. **Economy**
VII. **Government**
VIII. **History**

Questions

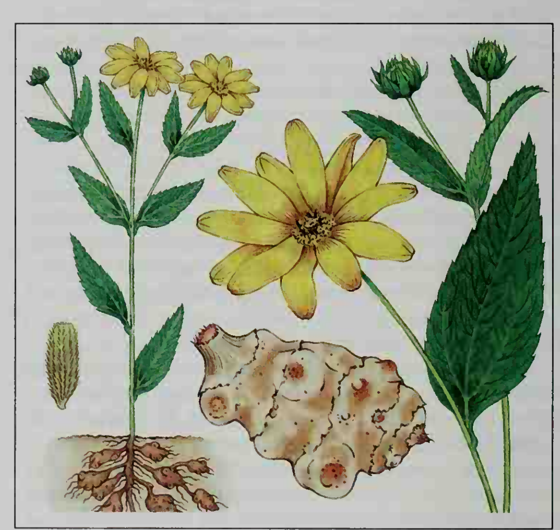
What is Jerusalem's most important industry?
When did Israel gain control of East Jerusalem?
What three religions consider Jerusalem a holy city?
Where is King David's tomb and the site of the Last Supper?
What was "no man's land?"
Who lives in Mea Shearim?
What is Jerusalem stone?
Where is Yad Vashem? the Dome of the Rock?
What did the Roman emperor Hadrian rename Jerusalem?
What are the names of the four neighborhoods in the Old City?

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Jerusalem artichoke is a plant native to North America. It is not an artichoke but is instead related to sunflowers. The plant gets that part of its name from the potatolike *tubers* it produces underground. These tubers taste somewhat like artichokes. Home gardeners often pickle the tubers. The tubers are also used as food for livestock, and in the production of *fructose* (also called *levulose),* a type of sugar.

Jerusalem artichokes bear yellow flowers and grow about 12 feet (3.7 meters) tall. The plants grow quickly from tubers left in the earth and can become a serious weed pest. Growers remove the tubers from the soil each year and plant new ones the following year to control the plants' growth. George R. Hughes



WORLD BOOK illustration by Nancy Lee Walter

The Jerusalem artichoke is related to the sunflower. Its potatolike *tubers* (underground stems) are often pickled or eaten as a table vegetable. This plant produces yellow flowers.

Scientific classification. The Jerusalem artichoke belongs to the composite family, Compositae. Its scientific name is *Helianthus tuberosus.*

Jester was a person whose duty it was often to amuse kings, queens, nobles, and their family and guests.

The jester was sometimes called the *court fool.* Jesters earned their support with their wit and by performing antics much like those of today's clowns. Jesters usually specialized in jokes and riddles. A jester wore a checkered coat and hose (called motley) of many colors. He wore a hood, sometimes decorated with an ass's ears or the head or comb of a cock. He also wore bells attached to his skirts, the elbows of his coat, his long, pointed shoes, and the peak of his hood.

It is not known when jesters first appeared. There may have been jesters in Britain during the time of the Saxons. Licenses were issued to jesters in the 1600's. Before that, a history of William the Conqueror (who lived in the 1000's) names his court fool, Goles. Many later kings had jesters. Henry VIII's jester, Will Somers, was a gift from Cardinal Wolsey. The practice of keeping a fool began to decline in the 1600's.

The court jester enjoyed an unusual position with his employers. He was almost a member of the family, taking part in private gatherings, sharing family secrets, and playing with the children. It is easy to understand how William Shakespeare's Hamlet felt when gravediggers uncovered the skull of his father's jester, Yorick. Hamlet describes him as "a fellow of infinite jest, of most excellent fancy." Most jesters were clever. Some jesters are believed to have given their kings advice.

Don B. Wilmeth

Jesuits, *JEHZH u ihts* or *JEHZ uh wihts,* are members of a Roman Catholic religious order of men. The official name of the order, founded by Saint Ignatius Loyola in 1534, is the Society of Jesus (SJ).

The Jesuits are especially noted for their work in education. The order operates more than 4,000 schools, colleges, and universities throughout the world. In the United States, the Jesuits direct about 45 high schools and 28 colleges and universities. Leading Jesuit universities in the United States include Boston College, Fordham University, Georgetown University, and Marquette University.

The order has produced many important explorers, missionaries, scientists, theologians, and writers. For example, Saint Francis Xavier, a Spanish Jesuit, converted thousands of people in the Far East during the 1500's. Jacques Marquette, a French Jesuit, helped explore the Mississippi River in the late 1600's. Gerard Manley Hopkins, an English Jesuit, ranks among the leading poets of the 1800's. Pierre Teilhard de Chardin, a French Jesuit, became a leading *paleontologist* (expert on prehistoric life) and theologian in the 1900's.

Many Jesuits have been *canonized* (declared saints) by the Roman Catholic Church. The best-known Jesuit saints include Robert Bellarmine, Peter Canisius, and Isaac Jogues.

Membership and training. Immediately after entering the order, a Jesuit begins two years of spiritual training. During this period, a Jesuit is called a *novice.* After training, he takes vows of poverty and of obedience to his superiors. A Jesuit also vows to stay *celibate* (unmarried).

The Jesuits have four groups of members: (1) scholastics (younger men in training for the priesthood); (2) temporal coadjutors (brothers); (3) spiritual coadjutors; and (4) the solemnly professed. The brothers are full members of the order but are not ordained to the priesthood. Spiritual coadjutors and the professed are priests. The professed take a vow of special obedience to the pope in addition to taking vows of celibacy, obedience, and poverty.

Jesuits must study for many years before becoming spiritual coadjutors or professed. This period of study, which usually lasts about 15 years for a high school graduate, provides both spiritual and academic training. A Jesuit's superiors determine if he is qualified for the rank of professed. They base their decision on the individual's record in his studies and on his qualities of spiritual leadership.

Organization. The Jesuits are headed by a *superior general,* who lives in Rome. He has broad powers to make decisions that affect the entire order. Jesuits live in about 100 countries. For administrative purposes, the order is divided into regions called *provinces, vice-provinces,* and *mission territories.* An official called a *provincial* supervises each province and vice-province. Provinces that share a common language or cultural background are grouped together into *assistancies.* An *assistant* serves as an adviser to the superior general on matters involving each assistancy. A local superior appointed by a provincial or by the superior general governs individual communities of Jesuits within each province or mission territory.

The superior general is elected for life by a congregation made up of assistants, provincials, and elected delegates from the order. The congregation also elects several principal assistants to the superior general. The superior general appoints provincials. He also appoints *superiors,* who supervise local groups of Jesuits. Most provincials and superiors serve six-year terms.

History. Saint Ignatius and six fellow students from the University of Paris began the Society of Jesus, which Pope Paul III formally approved as an order in 1540. He originally limited the Jesuits to 60 members. But in 1544, the pope authorized the order to increase its membership without limit. Ignatius wrote the order's *constitutions* (sets of rules), which have become models for hundreds of other Roman Catholic religious communities.

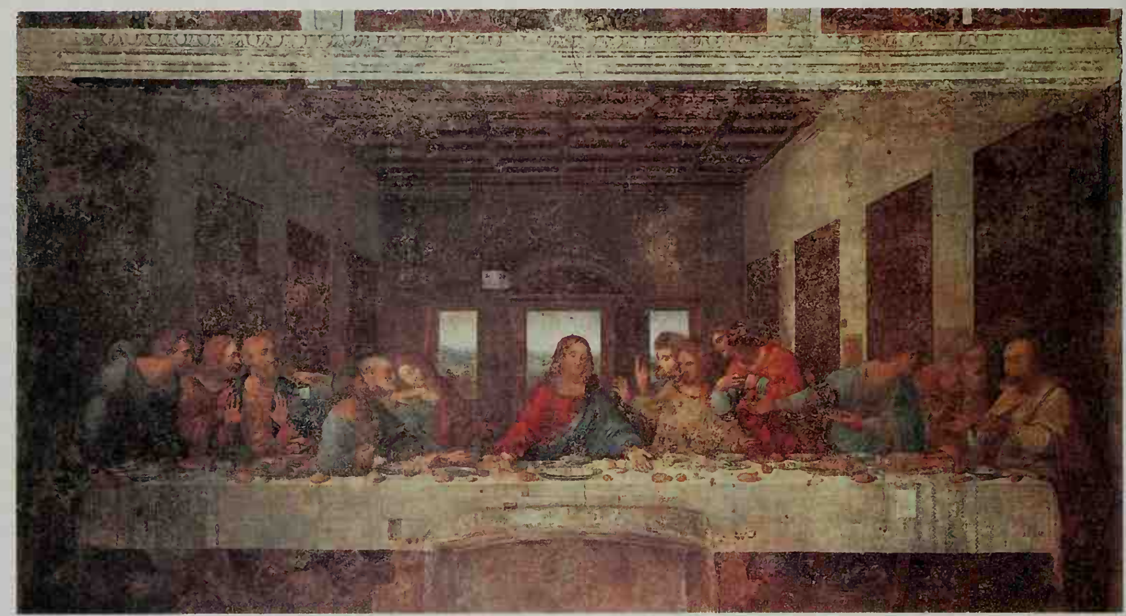
Under the leadership of Ignatius, the Jesuits grew to almost 1,000 members. By the time he died in 1556, the order had become firmly established in Europe, primarily through its activities in education. The Jesuits also conducted widespread missionary work in Africa, Asia, and North and South America. The order played a major role in the church's self-renewal movement called the Counter Reformation (see **Roman Catholic Church** [The Counter Reformation]).

The Jesuits aroused opposition as their membership and influence increased. In France, for example, the Jesuits came into conflict with a powerful religious movement called Jansenism (see **Jansen, Cornelius**). Finally, in 1773, Pope Clement XIV banned the order. Pope Pius VII removed the ban in 1814. See **Roman Catholic Church** (Suppression of the Jesuits).

From 1814 until the 1960's, the Jesuits steadily increased their membership. Then membership began to decline, especially in Europe. Today, the largest concentrations of Jesuits are in the United States and India.

John Patrick Donnelly

Each Jesuit mentioned in this article has a biography in *World Book.*



Santa Maria delle Grazie, Milan, Italy (SCALA/Art Resource)

The Last Supper was the final meal that Jesus shared with His 12 apostles. This painting shows Jesus, seated in the center, just after He had told the apostles that one of them would betray Him. The famous Italian artist Leonardo da Vinci finished painting the scene on a monastery wall about 1497.

Jesus Christ

Jesus Christ was one of the world's greatest religious leaders. The Christian religion was founded on His life and teachings. Most Christians believe that He is the Son of God who was sent to earth to save humanity. Even many people who are not Christians believe that He was a great and wise teacher. He was certainly one of the most influential people who ever lived.

The personal name of Jesus Christ was Jesus. The term *Christ* is a title which was so closely associated with Jesus that it became part of His name. It comes from the Greek word *christos*. The Greek word is a translation of the Hebrew word *messiah* (anointed one). Thus, the name Jesus Christ means Jesus the Messiah.

Belief in Jesus has united people from many lands. Christians make up the largest religious group in the world. Muhammad, the prophet of Islam, regarded Jesus as a great prophet and adopted many of His ideas. Moral standards of equality, responsibility, and care for the weak owe much to Jesus' lessons in brotherhood and kindness.

Four short books of the New Testament tell nearly all we know of the life of Jesus. These books are the Gospels of Matthew, Mark, Luke, and John. The word *gospel* means *good news*. Christian tradition attributes the Gospels of Matthew and John to men who followed Jesus during His life. The other two Gospels are attributed to men who became followers of Jesus after His death. Today, many scholars doubt that any of the writers of the Gospels knew Jesus during His lifetime. They also doubt that we know the actual names of the writers.

Other New Testament writings include the *Epistles* (letters) of Paul and the Acts of the Apostles. They tell us about the early followers of Jesus after His death and include information about Jesus. Non-Christian records of Jesus and the times in which He lived are found in the writings of Josephus, who wrote about A.D. 90; Pliny the Younger, who wrote about 112; Tacitus, who wrote about 115; and Suetonius, who wrote about 120.

Early life

The Nativity. The birth of Jesus is often called the Nativity. Jesus was born during the lifetime of Herod the Great, who ruled Palestine. Herod died in 4 B.C., so Jesus must have been born no later than the year of Herod's death. No one knows what time of year Jesus was born. The day of His birth was first celebrated on December 25 in the early 300's.

The Gospels of Matthew and Luke tell of the people, places, and events connected with the birth of Jesus. Both record that He was born in Bethlehem, a town in Judea. His mother was the Virgin Mary. Mary's husband was Joseph. He was raised in Nazareth, a town in Galilee. In other details, the two accounts differ greatly.

According to Matthew, Mary was *betrothed* (engaged to be married) to Joseph. When Joseph discovered that Mary was pregnant, an angel appeared to him in a dream. The angel told him that the child was of the Holy Spirit. After Jesus was born, wise men traveled from the East to see the newborn Messiah. They first asked for Him at Herod's court in Jerusalem. Then they followed the light of a star to Bethlehem. They found Jesus and gave Him gifts of gold, frankincense, and myrrh. Herod had told them to return after they knew where the infant was. But they had been warned not to go to Herod, and so they took another route home. Herod became

angry. He feared this new "King of the Jews." He ordered the deaths of all boys in Bethlehem 2 years old and younger. An angel had appeared to Joseph in another dream and warned him about this decree. Joseph fled with Mary and Jesus to Egypt. After Herod died, they returned and settled in the town of Nazareth in Galilee.

According to Luke, Mary and Joseph originally lived in Nazareth. The angel Gabriel visited Mary and announced that her child would be the Son of God and the Messiah that was promised in the Hebrew Bible. This visit is known as the *annunciation.* Sometime before Jesus was born, Mary and Joseph went to Bethlehem to record their names in a *census* (count of the people). They found shelter in a stable. Jesus was born there and Mary made a cradle for Him in a manger. Shepherds near Bethlehem saw angels in the sky. The angels sang, "Glory to God in the highest and on earth peace, good will toward men" (Luke 2:14). Some translations of the Bible say "to men of good will." After Mary and Joseph had done everything commanded by Jewish law, they returned with Jesus to Nazareth.

Childhood. There is only one story in the Gospels about Jesus' childhood. Luke says that when Jesus was 12 years old, He went with Mary and Joseph to Jerusalem for the feast of Passover. He sat among the scholars in the Temple and amazed them with His knowledge of religion. The only other remark in Luke about Jesus' childhood is that "the Child grew, and waxed strong in



Christ Disputing with the Elders (about 1305), a fresco by Giotto in the Scrovegni, or Arena, Chapel, Padua, Italy (SCALA)

Jesus' childhood was probably spent in Nazareth. At the age of 12, He went to Jerusalem with Joseph and Mary to celebrate the feast of Passover. There He met with scholars in the Temple, *above,* and amazed them with His knowledge of religion.



The Adoration of the Shepherds (1646), an oil painting on canvas by Rembrandt; Alte Pinakothek, Munich, Germany

The birth of Jesus, called the *Nativity,* took place in a stable in Bethlehem, a small town in Judea. This painting shows Mary and Joseph watching over Jesus while several shepherds worship Him.



The Baptism of Christ (about 1450), an oil and tempera painting on wood by Piero della Francesca, the National Gallery, London

Jesus was baptized by John the Baptist with water from the River Jordan. In this painting, the three angels at the left watch the baptism while the Holy Spirit, in the form of a dove, appears above Jesus' head. A man behind John prepares to be baptized.



WORLD BOOK map

Jesus' life centered in Judea and Galilee. According to Christian tradition, Jesus was born in Bethlehem and raised in Nazareth. He was crucified outside Jerusalem.

spirit, filled with wisdom: and the grace of God was upon Him" (Luke 2:40). Jesus probably grew up in Nazareth and helped Joseph in his carpentry work.

Public life

Jesus' public life began after He was baptized by John the Baptist in Judea with water from the River Jordan. According to Luke, Jesus was baptized when He was about 30 years old. John the Baptist preached repentance and baptized those who accepted his message.

Ministry. The mission of Jesus was to announce that the Kingdom of God was coming, and that it had begun to arrive even as He announced it. He did this both in words and in actions, by His miracles and His teaching. By the "Kingdom of God," Jesus meant a new state of affairs on earth, which God would bring about. In it all people would live as God's children.

After Jesus' baptism, He went to Galilee to begin to spread His message. According to Matthew, Mark, and Luke, the first part of Jesus' ministry was in Galilee and the area around it. He chose Capernaum, near the Sea of Galilee (Lake Gennesaret), as His headquarters. At the end of His ministry in Galilee, Jesus traveled to Jerusalem, where He died. According to John, however, Jesus traveled between Galilee and Judea several times.

Jesus attracted many *disciples* (close followers). He chose 12 disciples who assisted Him. They became known as the *apostles.*

The miracles. The Gospels tell of many miracles that Jesus performed. He did not work any miracles for His own benefit. His miracles showed that what He said about the Kingdom of God was true. In each miracle, the Kingdom of God broke into human life in a small way. The miracles brought relief from all kinds of sickness and suffering. This relief showed the meaning of the Kingdom of God.

According to the Gospel of John, Jesus' first miracle took place at a wedding feast at Cana. When His host ran short of wine, Jesus changed water into wine. According to the Gospel of Luke, Jesus performed another early miracle at the Sea of Galilee. There, the apostle Peter caught so many fish that the weight of the fishing net almost sank the boat. Another time, Jesus divided five loaves of bread and two fishes among 5,000 people so that everyone would have food. He also once amazed His disciples by walking on the sea.

Jesus performed other miracles that healed sick people or relieved them from other kinds of suffering. He enabled lame people to walk and restored sight to the blind. The Gospel of John tells of Jesus' miracle that brought His friend Lazarus back to life after Lazarus had been dead and buried for four days. Jesus used His power to perform miracles in order to show the love and mercy of God.

His teaching. In addition to proclaiming the Kingdom of God by His miracles, Jesus also proclaimed it by His teaching. Jesus often used *parables* to explain the Kingdom of God. Parables are brief stories that teach lessons. One of Jesus' well-known parables, *The Prodigal Son,* is found in Luke 15:11-32. The parable describes a father's great joy at the return of his wayward son. Jesus used this story to teach God's love and forgiveness for sinners who repent.

Jesus also told His followers what kind of life they would have to live in the Kingdom of God. He taught people to love God and their neighbors. Jesus stressed that each person should treat others as he or she wished to be treated. He also instructed His listeners not



Jesus Opens the Eyes of a Man Born Blind (about 1311), a tempera painting on wood by Duccio di Buoninsegna; the National Gallery, London

Jesus restored a blind beggar's sight in a miracle described in the Gospels. The apostles watch as Jesus touches the beggar's eyes. The beggar rejoices, *far right,* at being able to see for the first time.



The Agony in the Garden (about 1460), a tempera painting by Andrea Mantegna. National Gallery, London

Jesus was arrested by Roman soldiers in Gethsemane, a garden east of Jerusalem. This painting shows Jesus praying in the garden. His followers Peter, James, and John are shown sleeping in the foreground. In the background, Jesus' betrayer Judas Iscariot leads the soldiers to the garden.

to fight back if they were attacked. He commanded, "Whosoever shall smite thee on thy right cheek, turn to him the other also" (Matt. 5:39).

The Passion

Jesus' proclamation of the Kingdom of God was good news for many people. But some, especially the leaders of the people, were unhappy with Him. They believed that Jesus changed accepted religious practices, such as the Sabbath laws. But most of all, the leaders feared that His popularity would encourage a rebellion against the Roman Empire. Then the Romans would destroy the Jewish nation.

Jesus probably knew that it was dangerous to carry out His ministry. But He considered His ministry to be His duty. He was determined to preach the good news of the Kingdom of God. Jesus felt that He had come to save other people by giving His own life. The *Passion* is a term used to indicate Jesus' suffering during the final days of His life. Christians remember these final days during Holy Week.

The Last Supper. Jesus arrived in Jerusalem for Passover week. He made a triumphal entry into the city. People cheered Him and covered His path with clothing and the branches of palm trees. They were grateful for His teaching and healing. Many of them believed that He would bring a better life to the Jewish nation. Jesus went into the Temple and drove out the men who were changing money and selling doves. He taught that the house of God must be for prayer, and not for making money.

During the next few days, Jesus spent part of His time teaching in Jerusalem. The rest of the time He spent in the nearby town of Bethany. He had a final meal with His disciples in Jerusalem. This meal is often called the Last Supper. During the meal, Jesus told His disciples that



Detail of *Christ Before Pilate*, a tapestry (late 1400's) by an unknown French artist; Museum of Fine Arts, Boston, Gift of Robert Treat Paine II in memory of his son, Walter Cabot Paine

Jesus was brought before Pontius Pilate, the Roman governor of Judea, for a trial. Jewish leaders said that Jesus claimed to be King of the Jews. He was charged with treason against Rome. Pilate sentenced Jesus to crucifixion.

one of them would betray Him. According to Matthew, Mark, and Luke, this supper was the Passover meal. As Jesus gave His disciples bread, He said, "This is my Body." As He gave them wine, He said, "This is my Blood" (Matthew 26:26-28, Mark 14:22-24, and Luke 22:19-20). The Christian ceremony of *Communion* is based on the Last Supper.

The trial. After the meal, Jesus and His disciples went to Gethsemane, a garden on the slope of the Mount of Olives, opposite the Temple. According to Matthew, Mark, and Luke, Jesus prayed there in agony, knowing the things that were to happen to Him, but He submitted Himself to God's will. A band of armed men came to the garden to arrest Jesus. Judas Iscariot, one of His disciples, pointed Him out to them. Thus, Judas was the one who betrayed Jesus. The Gospel of Matthew says that Judas later hanged himself.

The men took Jesus to the high priest's house. There the leaders of the people questioned Jesus. According to Matthew, Mark, and Luke, they asked Him if He was the Messiah. When He did not deny it, they said that He had *blasphemed* (insulted God's name).

The Jewish leaders took Jesus before Pontius Pilate, the Roman governor of Judea. They said that Jesus claimed to be King of the Jews and charged Him with treason against Rome. According to the Gospel of Luke, Pilate found out that Jesus was a Galilean and sent Him to Herod Antipas, the ruler of Galilee. Herod mocked Jesus, dressed Him in a kingly robe, and sent Him back to Pilate.

It was the custom for the Roman governor to release one Jewish prisoner at the Passover season. Pilate took Jesus and a condemned criminal named Barabbas onto the steps of his palace and told the crowd to choose which one should go free. The crowd turned against Jesus and chose Barabbas. Pilate then sentenced Jesus to die on a cross. Crucifixion was a common Roman form of execution.

The Crucifixion. According to Matthew, Mark, and John, the Roman soldiers mocked Jesus for claiming to be King of the Jews. They dressed Him in a red robe, placed a crown of thorns on His head, and put a reed in His hand. Some of the men struck Him.

The Gospel of John says that Jesus carried His own cross to the place of the Crucifixion. According to the other Gospels, the soldiers made a man named Simon of Cyrene carry the cross. They nailed Jesus to the cross outside the city, on a hill called Golgotha (Calvary). On the cross they wrote the charge against Jesus, "The King of the Jews." The soldiers set up His cross between the crosses of two thieves.

According to Luke, Jesus said as He hung on the cross, "Father, forgive them; for they know not what they do" (Luke 23:34). According to both Matthew and Mark,



Christ on the Road to Calvary (about 1340), a tempera painting on wood by Simone Martini, the Louvre, Paris (Cliche Musees Nationaux)

Jesus' last hours. The place of Jesus' Crucifixion was a hill called Calvary. The painting above shows Jesus carrying His cross toward Calvary. He was crucified along with two condemned thieves. According to the Gospel of John, a Roman soldier later pierced Jesus' body in the side with his spear, *right.*

Le Coup de Lance (1620), an oil painting on wood by Peter Paul Rubens; Koninklijk Museum voor Schone Kunsten, Antwerp, Belgium





Illuminated manuscript (early 1400's) by the Limbourg brothers from the Duc de Berry's *Très Riches Heures;* Musée Condé, Chantilly, France (Giraudon/Art Resource)

The Resurrection of Jesus, as related in the Gospels, occurred on the third day after His Crucifixion. In this picture, Jesus greets an angel on His tomb, while the Roman guards collapse on the ground in fear and awe.

He cried out, "My God, My God, why hast thou forsaken me?" (Matthew 27:46; Mark 15:34). After Jesus died, a disciple named Joseph of Arimathea took His body to a new tomb and sealed the tomb with a stone.

The Resurrection. Christians refer to Jesus's return to life as His Resurrection, and celebrate it on Easter Sunday. The Gospels tell how Mary Magdalene went to Jesus's tomb on Sunday morning. She found the stone rolled away and the tomb empty. The Gospels also record various appearances of Jesus after the discovery of the empty tomb. He appeared to Mary Magdalene (Matthew, John), to Simon Peter and to two disciples who saw Jesus on the road to Emmaus (Luke), and to the 11 faithful disciples who met with Jesus in Jerusalem (Luke, John) and in Galilee (Matthew, John). According to the Acts of the Apostles, Jesus stayed on earth during the next 40 days and taught His disciples. Then He rose into heaven. This rising of Jesus into heaven is often called *The Ascension.*

The early Christians

The Resurrection of Jesus convinced His disciples that He was not only the one who announced the coming of the Kingdom of God, but also the Messiah, who would bring the Kingdom into being. They believed that through His death and Resurrection, Jesus began to free the human race from all suffering and evil. The disciples also believed that He would come again to complete the work He had begun.

The disciples quickly converted hundreds of people to the new faith. The missionary activity of the apostle Paul helped to spread Christianity throughout the eastern Mediterranean area within 30 years after the death of Jesus. The Christians suffered persecution by the Roman authorities, but the faith continued to spread. Finally, in 313, Emperor Constantine the Great gave the Christians freedom of worship.

During this time, the Christians tried to understand Jesus more fully. Eventually they came to see that He was not only the Messiah, but also the Son of God in a special sense not shared by anyone else. The Christians explained the relationship of Jesus to God by means of the *doctrine of the Trinity.* This doctrine states that in one God there are three Divine Persons: the Father, the Son, and the Holy Spirit. As the Son, Jesus is equal with the Father. The doctrine of the Trinity explained why Jesus had absolute authority for His teachings and absolute power to forgive sins and give eternal life.

Terrance D. Callan

Related articles in *World Book* include:

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New Testament
Palm Sunday
Parable
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Peter, Saint
Pilate, Pontius
Resurrection
Shroud of Turin
Transfiguration
Transubstantiation
Trinity
Wandering Jew

Outline

I. **Early life**
II. **Public life**
III. **The Passion**
IV. **The early Christians**

Questions

Which books of the Bible tell about the life of Jesus?
In what town was Jesus born? Where did He die?
Who were (1) Pontius Pilate? (2) Judas Iscariot?
What does the name Jesus Christ mean?
What were two miracles that Jesus performed?
What did Jesus tell His apostles at the Last Supper?
Who baptized Jesus?
What were (1) the Nativity? (2) the Passion?
Where was Jesus arrested?
Why was Jesus's Resurrection important to His early followers?

Additional resources

Level I
Chute, Marchette G. *Jesus of Israel.* 1961. Reprint. Robert H. Sommer Pubs., 1988.
Jesus of Nazareth. Simon & Schuster, 1994. The life of Jesus told through paintings.

Level II
Crossan, John D. *The Essential Jesus.* Harper San Francisco, 1994. *The Historical Jesus.* 1991. Reprint. 1993. *Jesus.* 1994.
Miller, Calvin, ed. *The Book of Jesus.* Simon & Schuster, 1996. A collection of writings about Jesus.
Shorto, Russell. *Gospel Truth.* Riverhead Bks., 1997. Discusses current research on Jesus.

Jet is a kind of coal so hard and uniform that it can be carved and polished to look like black glass. It is used to make buttons and costume jewelry. See also **Gem** (picture).

Jet airplane. See **Airplane** (Jet engines; The jet age); **Jet propulsion.**

Jet engine. See **Jet propulsion; Airplane** (Jet engines).

Jet lag, or jet exhaustion. See **Biological clock.**



Photri

A huge jet engine produces the power needed to fly airplanes with heavy loads of passengers and freight.

Jet propulsion is the production of motion in one direction by the release of a high-pressure stream of gas in the opposite direction. Jet propulsion powers rockets, guided missiles, and many airplanes.

Jet-propelled airplanes can reach much higher speeds than propeller-driven ones. Some jet aircraft fly faster than sound travels through the air. Jet propulsion also makes flight possible at extremely high altitudes—and even in outer space.

Jet engines cause less vibration than do piston engines, which are used in some airplanes to turn propellers. This smoothness of operation results in a safer and more comfortable ride. Jet engines are generally smaller and lighter in weight than piston engines that produce the same amount of *thrust* (forward-driving force). However, a jet engine burns more fuel than a piston engine that creates an equal amount of thrust.

About A.D. 60, the scientist Hero of Alexandria built a small toylike device that was probably the first jet engine. The first flight of an airplane powered by a jet engine occurred in Germany in 1939. Since then, jet propulsion has powered aircraft of all types, including supersonic airliners and spacecraft that have journeyed to other planets.

How jet propulsion works

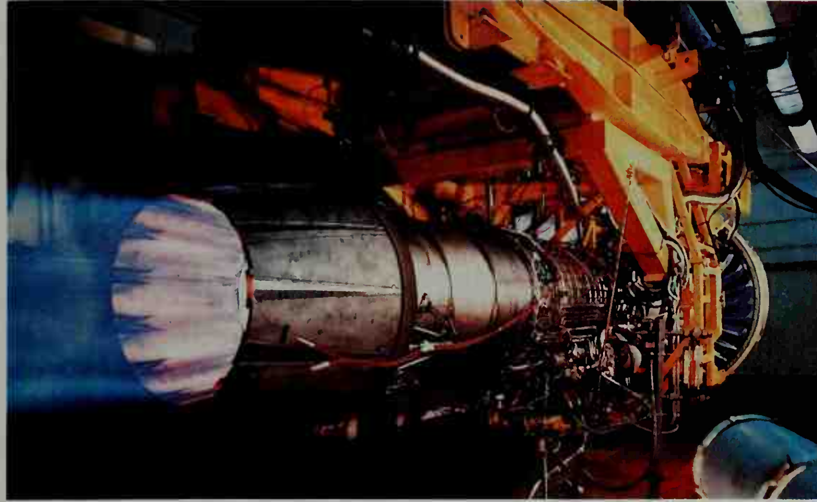
The principle of jet propulsion can be demonstrated with a garden hose connected to a water supply. When the nozzle at the end of the hose is closed, the water pushes in all directions against the inside of the nozzle. It also pushes back against the water in the hose that is trying to squeeze into the nozzle. When the nozzle is open, some of the water squirts out through the opening. This action upsets the balance of pressure inside the nozzle. It releases the pressure pushing forward just inside the nozzle opening. But the water that is still in the nozzle continues pressing backward and to the sides. If you let go of the nozzle, the unbalanced, backward-pushing pressure will propel it backward. The nozzle will move in the direction opposite that of the jet of water escaping from the nozzle.

The principle of jet propulsion was first described in 1687 by the English scientist Sir Isaac Newton in his third law of motion. This law states that for every action, there is an equal and opposite reaction. In the above example, squirting water out of the nozzle is the action. The equal and opposite reaction is the backward movement of the nozzle. Jet propulsion drives an aircraft engine in much the same way. Gas pressure builds up inside the engine. The pressure pushing in one direction is released in a powerful stream of jet exhaust. The action of this exhaust escaping from the rear of the engine causes an equal and opposite reaction that pushes the engine forward. See **Motion** (Newton's laws of motion).

Jet engines and rockets both use the principle of jet propulsion. However, they use different sources of oxygen to burn fuel. Jet engines use the oxygen in the air. For this reason, airplanes with jet engines cannot fly outside the earth's atmosphere. Rockets carry their own supply of oxygen to use in burning their fuel. As a result, rockets can fly in the airless expanse of outer space. See **Rocket** (How rockets work).

How a jet engine works Air enters the jet engine, is compressed, mixed with fuel, and burned. The combustion gases push in all directions but can escape only at the rear of the engine. The action of these gases accelerating as they leave the engine creates a reaction that pushes the engine in the opposite direction.

WORLD BOOK diagram by William Graham



General Electric

Testing a jet engine requires a specially equipped chamber. A test stand holds a running turbofan engine in order to measure the *thrust* (forward driving force) the engine produces.

Power in a jet engine is produced by burning fuel in a combustion chamber. The hot gases created by the burning of the fuel with a supply of air then rush out through a nozzle, creating jet thrust.

Air enters the jet engine through an inlet duct. It is then compressed until it has from 3 to 40 times as much pressure as that of the outside air. The compressed air flows into the combustion chamber. There, part of the air is mixed with a fine spray of jet fuel. A liquid petroleum fuel similar to kerosene is the most commonly used jet engine fuel. The mixture of fuel and air is ignited and the fuel burns, releasing a large amount of energy. The temperature of combustion ranges from about 3600 to 4000 °F (2000 to 2200 °C). These high temperatures could damage the jet engine. However, the remainder of the compressed air is mixed with the hot combustion gases to lower the temperature of the gases by about 50 percent. This process cools the walls of the combustion chamber and other parts of the engine. The mixture of gases then escapes through a nozzle at an extremely high speed.

The first jet-propulsion engines created thrust by accelerating a small amount of gas to great speeds. The exhaust of these engines contained much unused energy. Modern jet engines approach the efficiency of propeller engines, which move a large amount of air at a low speed, leaving little unused energy in the air.

The amount of thrust produced by a jet-propulsion engine is about the same at all flight speeds. But the amount of thrust generated by a propeller drops off as the flight speed increases. Thus, jet-propelled aircraft can reach much higher flight speeds than propeller-driven aircraft can.

The thrust produced by an aircraft engine is expressed in pounds or newtons. For example, each of the four huge jet engines used on many Boeing 747 airliners produces 51,600 pounds (232,000 newtons) of thrust.

Types of jet engines

There are four major types of jet engines: (1) turbojet, (2) turboprop, (3) turbofan, and (4) ramjet. They differ chiefly in the portion of their total thrust that they produce directly by jet propulsion. Turboprops and turbofans generate most of their thrust by turning propellers or propellerlike fans rather than by pure jet propulsion. Jet engines also differ in the way they compress the air that enters the intake ducts.

Turbojet was the first type of jet engine used to power an airplane. All other types of jet engines are variations of the turbojet.

An inlet duct scoops air into the turbojet and carries the air to the compressor. The job of the inlet duct becomes more complicated in jet fighters and other aircraft that fly faster than the speed of sound. At an altitude of 40,000 feet (12,000 meters), sound normally travels at about 660 miles (1,060 kilometers) per hour. *Supersonic flight* (flight that exceeds the speed of sound) causes shock waves to develop in the air as it rushes through the inlet duct. These shock waves remove energy from the air, which can reduce the engine's thrust. However, a turbojet can reduce the loss of energy caused by such shock waves by continually adjusting the shape of the inside of the inlet duct.

The compressor raises the pressure of the air in the engine. Turbojets are equipped with either an *axial-flow compressor* or a *centrifugal-flow compressor.*

An axial-flow compressor consists of several wheels with many small, winglike blades attached, as in an electric fan. These wheels are arranged one behind another along a shaft that runs through their centers and turns them at high speeds. Between each pair of wheels is a set of stationary blades. The air flows through the compressor parallel to the shaft. Each row of blades squeezes the air, increasing its pressure. Some axial-flow compressors raise the air pressure to a level about 40 times that of the air entering the inlet duct.

A centrifugal-flow compressor squeezes the air by taking it in near the center of a rapidly spinning wheel and throwing the air out toward the rim. Such compressors typically have a larger diameter than axial designs. As a result, they are used less frequently in turbojet engines than axial-flow compressors are.

After the air leaves the turbojet compressor, it enters the combustion chamber. There, from 25 to 40 percent

Kinds of jet engines

The diagrams below show the principal parts of four major types of jet engines and how these engines produce power. The diagrams at the left show front views of the engines. The photographs on the opposite page show examples of aircraft that use these types of engines.

WORLD BOOK diagrams by James Magine

Ramjet

Air inlet
Jet nozzle
Hot gases
Fuel injector
Combustion chamber

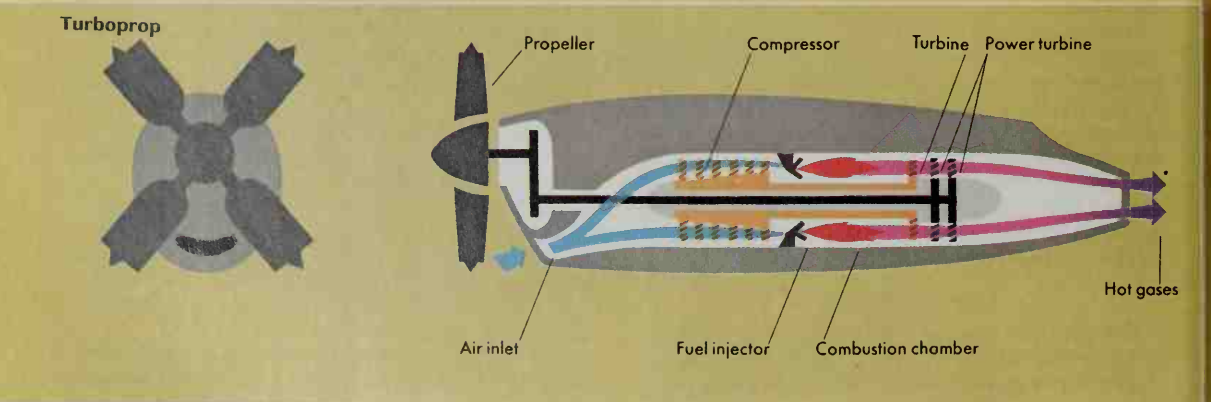
Turbojet

Fuel injector
Turbine
Flame holder
Air inlet
Hot gases
Compressor
Combustion chamber
Afterburner fuel injector

Turbofan

Air inlet
Compressor
Turbine
Fan turbine
Hot gases
Fan
Fuel injector
Combustion chamber

Turboprop



A ramjet engine must be brought up to high speed by a rocket or another jet engine before it can operate. Air rushes into the engine through the air inlets. The air slows down as it approaches the combustion chamber. It is compressed by more air entering the inlet behind it. In the combustion chamber, the compressed air is mixed with fuel supplied by the fuel injector and burned. The pressure produced by the burning fuel and air sends hot exhaust gases out the jet nozzle and drives the engine forward. Ramjets operate best at high, steady speeds. For this reason, they have been used chiefly to propel guided missiles, such as the one shown at the right.



LTV Missiles & Electronics Group

Turbojet engines have a compressor with fanlike blades that squeeze the incoming air. The compressor blades also force the compressed air into a set of combustion chambers. There, the compressed air is mixed with fuel and ignited, forming burning gases. The gases expand rapidly and rush through the blades of a turbine, making it spin. The turbine is connected by a shaft to the compressor and keeps the compressor turning. An afterburner gives a turbojet extra thrust by supplying the hot exhaust gases with extra fuel. This fuel is burned, increasing the speed of the jet exhaust. Metal grids called *flame holders* prevent the fast-moving gases from blowing out the flames. Turbojet engines power the F-5E Tiger II fighter aircraft pictured at the right.



Northrop Corporation

Turbofan engines resemble turbojet engines but have a huge propellerlike fan at the air inlet. Most of the air drawn through the fan passes around the rest of the engine, creating thrust. The rest of the air enters the enclosed engine, which operates like a turbojet to produce thrust. It consists of a compressor, combustion chambers, and two kinds of turbines. One turbine drives the compressor and the other, called a *fan turbine,* turns the fan. By using two methods to produce thrust, a turbofan can create more thrust at low speeds than a turbojet can. The turbofan also runs more quietly and uses less fuel. Turbofans power many commercial airliners, such as the Boeing 747-400 shown at the right.



Boeing

Turboprop engines consist of a propeller and a turbojet engine. The turbojet engine is used chiefly to turn the propeller, which supplies most of the turboprop's driving power. The propeller rotates when burning gases from the combustion chambers turn the power turbine. This turbine is connected to a shaft that drives the propeller by a system of gears. When the hot gases escape from the engine, they provide a small amount of additional thrust. Turboprop engines are most efficient at relatively low flight speeds. They are smaller and lighter in weight than piston engines that produce the same amount of power. Turboprops are widely used in small business aircraft, such as the Beechcraft Super King Air pictured at the right.

Beech Aircraft Corporation



of the compressed air is mixed with jet fuel and the fuel is burned. Combustion increases the temperature and pressure of the gases. The rest of the air from the compressor is then mixed with these gases to cool them.

As the hot gases rush out of the combustion chamber, they pass through the blades of a *turbine* (rotor device). The combustion gases spin the turbine wheels, which rotate the shaft that turns the compressor. A small amount of cold air is bled from the compressor through holes in the turbine blades to keep them from melting.

After passing through the turbine, the combustion gases rush out through the nozzle. In a typical turbojet, the exhaust gases leave the nozzle at a speed of about 1,000 miles per hour (1,600 kilometers per hour). Nozzles designed for flight speeds below the speed of sound narrow gradually to the opening. Nozzles designed for supersonic flight narrow and then flare out again. This widening of the nozzle helps accelerate the gases beyond the speed of sound.

Some turbojets are equipped with devices called *afterburners.* An afterburner greatly increases the thrust of the engine. In a turbojet, the afterburner sits between the turbine and the nozzle. The gases leaving the turbine are still rich in oxygen. In the afterburner, additional jet fuel is mixed with these gases and burned, greatly raising the temperature. The energized gases then accelerate through the nozzle, reaching extremely high speeds. This high-speed exhaust generates a great deal of thrust. However, the process of accelerating the gases uses a large amount of fuel. For this reason, turbojets are used only for short periods, such as during emergency maneuvers, rapid take-offs, or steep climbs.

Turbojets are used primarily to power military aircraft. The Northrop F-5E jet fighter uses two turbojets with afterburners. Each turbojet generates 3,500 pounds (15,600 newtons) of thrust. The afterburners boost the thrust to 5,000 pounds (22,200 newtons).

Turboprop is basically a turbojet that uses nearly all its power to turn a propeller. The arrangement of the compressor, combustion chamber, and turbine in a turboprop is similar to that in a turbojet. However, the turboprop also has a second turbine just to the rear of the turbine that turns the compressor. Combustion gases spin the second turbine, which is sometimes called the *power turbine.* This spinning motion is transferred by a shaft and a gearbox to the propeller.

There is still a little energy left in the combustion gases after they have turned the power turbine. These gases shoot out of the nozzle, adding a small amount of jet thrust to the thrust produced by the propeller.

The turboprop is smooth running, reliable, and economical, but it is limited to subsonic flight speeds. Turboprops are much smaller and lighter than piston engines that produce the same amount of power. The Cessna Conquest, which is a small business airplane, and the Beechcraft 1900, a 19-passenger commuter airliner, use turboprops.

Turbofan is essentially a turbojet that uses part of its power to turn a large fan. The fan is powered by a turbine and is enclosed in a duct at the front of the engine. It pushes air back toward the engine. Most of the air is forced back along the outside of the engine, creating thrust. The rest of the air enters the engine, where it is compressed. Fuel is mixed with the compressed air and burned, and the hot gases are released to generate thrust. By combining the two propulsion methods, a turbofan achieves some of the efficiency of a turboprop aircraft without sacrificing the high-speed performance of a turbojet. Some turbofans have afterburners.

A further advantage of the turbofan is its low noise level. Jet noise becomes louder as the jet exhaust velocity increases. The speed of gases leaving a turbofan is lower than the speed of turbojet exhaust. Thus, a turbofan is quieter than a turbojet.

All modern airliners use turbofans. Most military jets, including the Grumman F-14 Tomcat fighter and the Lockheed Martin F-16A Fighting Falcon, also are powered by turbofans.

Ramjet is the simplest type of jet engine. It is basically a turbojet without a compressor or turbine. Air entering a ramjet is slowed down in the inlet duct. This air is compressed by the ramming action of more air trying to enter the duct as the ramjet travels at high speed. Fuel is mixed with the compressed air and burned, and the combustion gases are accelerated through the nozzle to create thrust. Because of its simplicity, the ramjet is sometimes called the "flying stovepipe." Ramjets are used in guided missiles designed to attack enemy aircraft.

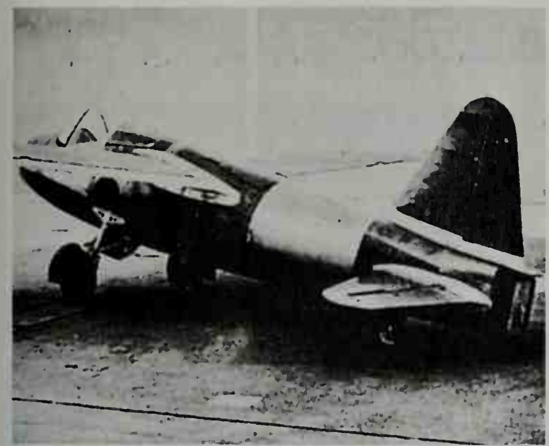
The major disadvantage of the ramjet is that it functions poorly at subsonic flight speeds. If sufficient airflow is not achieved, the combustion gases will exit both ends of the engine, and the engine could explode. Such an occurrence is avoided by first accelerating a ramjet to supersonic operating speed by a turbojet or rocket. The ramjet engages after there is an adequate high-pressure flow of air through the engine.

In one type of ramjet, called a *supersonic combination ramjet* or *scramjet,* combustion takes place at supersonic air velocities through the engine. A scramjet has flown at more than 7 times the speed of sound, and scientists believe scramjets may be able to fly at speeds approaching 15 times the speed of sound. The U.S. National Aeronautics and Space Administration (NASA) Hyper-X program is devoted to developing such aircraft.

Development of jet propulsion

The scientist Hero of Alexandria built a small jet engine about A.D. 60. It was powered by steam escaping from a hollow sphere through two nozzles that pointed in opposite directions. The steam turned the sphere in much the same way that jets of water spin a rotating lawn sprinkler. But jet engines were not used to power aircraft for nearly 1,900 years after Hero's invention.

The growing tensions that led to World War II (1939-1945) accelerated the development of jet engines to propel aircraft. The first flight of a jet airplane occurred in Germany in 1939. This airplane, the Heinkel He-178, was powered by a turbojet designed by Hans von Ohain, a German physicist. In Italy, the jet-propelled Caproni-Campini CC2 airplane was built and flown in 1940. Neither of these first two jet aircraft engines proved practical. A more successful turbojet soon was developed by Frank Whittle, an officer in the United Kingdom's Royal Air Force. Whittle had patented a design for a turbojet in 1930. His engine powered the Gloster E. 28/39, an experimental airplane that first flew in 1941. The first successful jet fighter was the German Messerschmitt Me262,


Wright-Patterson Air Force Museum

The first jet aircraft was the German Heinkel He-178. It first flew on Aug. 27, 1939. The plane was powered by a turbojet designed by Hans von Ohain, a German physicist.

which began to fly combat missions near the end of World War II.

During World War II, Germany pioneered the use of jet propulsion for guided missiles. In 1947, the rocket-powered Bell X-1, built in the United States, became the first airplane to fly faster than the speed of sound.

During the 1950's, turbojets and turboprops began to power some commercial airliners. Also at this time, ramjets propelled such early United States guided missiles as the Bomarc and Talos. During the 1960's, the turbofan began to replace the turbojet on commercial and military aircraft. Because of the turbofan's efficiency and low noise, it came into widespread use in the 1970's. Today, researchers continue working to increase the efficiency of jet engines while reducing the cost and the amount of pollution the engines produce. Mark J. Lewis

Related articles in *World Book* include:

Aerodynamics
Aircraft, Military
Airplane (Power for flight)
Aviation (A new age of flight)
Guided missile
Motion (Newton's laws of motion)
Rocket
Space exploration

Outline

I. How jet propulsion works
A. The principle of jet propulsion
B. Power in a jet engine
II. Types of jet engines
A. Turbojet
B. Turboprop
C. Turbofan
D. Ramjet
III. Development of jet propulsion

Questions

What advantages do jet aircraft engines have over piston aircraft engines?
How do rockets differ from jet engines?
What is the most common type of jet engine?
Who was Hero of Alexandria?
Which type of jet engine uses most of its power to turn a propeller?
What is *thrust*?
When was the first flight of a jet airplane?
What is an *afterburner*?
Which type of jet engine is called a "flying stovepipe"?
What is Newton's third law of motion?

Jet Propulsion Laboratory is a center for the design of unmanned spacecraft and their control in space. The California Institute of Technology operates the laboratory, located in Pasadena, California, for the National Aeronautics and Space Administration (NASA).

In 1958 and 1959, the laboratory sent two probes on a mission to explore the space between the planets. Engineers at the center guided the Ranger space probes that photographed the moon. The engineers also guided the Surveyor spacecraft that made the first unmanned United States moon landings. These missions, flown from 1962 to 1968, prepared the way for astronauts to land on the moon. Mariner probes controlled from the laboratory have reached Venus, Mars, and Mercury.

The laboratory also controlled the Viking probes, which studied the atmosphere and soil of Mars during the mid-1970's. It designed and operated the Pioneer-Saturn and the Voyager probes, which flew past Jupiter, Saturn, Uranus, and Neptune in the late 1970's and the 1980's. The Magellan probe, controlled from the laboratory, began mapping the surface of Venus in 1990. The laboratory also participates in missions to observe the earth's atmosphere and surface from satellites.

A few students at the California Institute of Technology established the laboratory in 1936 as a place for rocket research. The laboratory did research and development work on rockets for the Army from 1939 to 1958, when it was transferred to NASA. Daniel J. Kevles

Jet stream is a band of fast-moving air currents that occur at high altitudes. Jet streams flow in wavelike fashion around the Northern and Southern hemispheres. They change position constantly and move both vertically and horizontally.

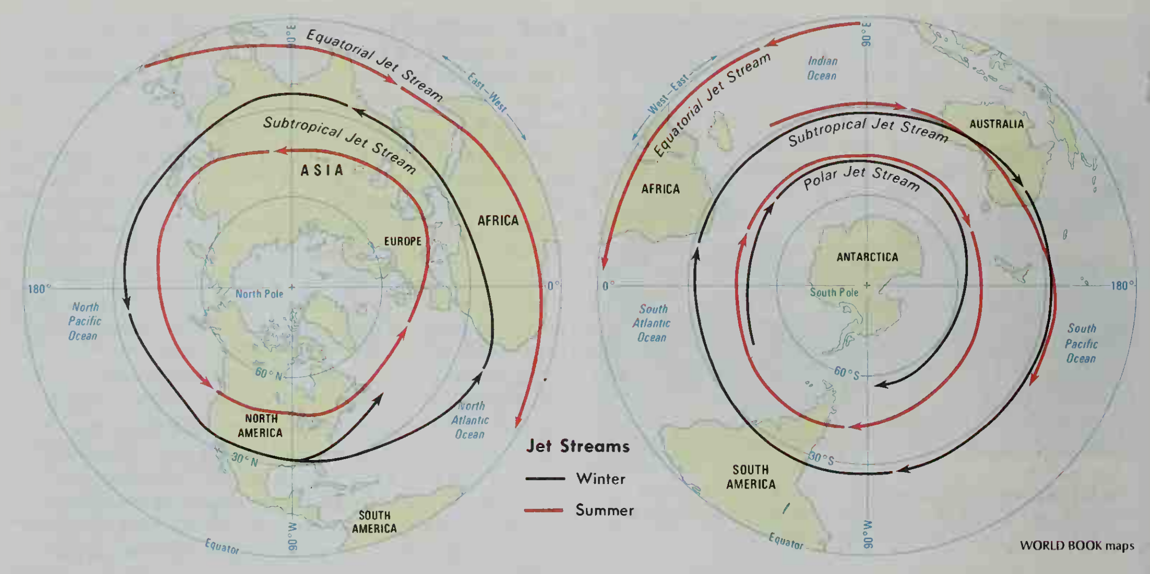
A jet stream's core of strongest winds is about 60 miles (97 kilometers) wide and about 1 mile (1.6 kilometers) thick. The length of the core varies greatly, but it averages about 3,000 miles (4,800 kilometers). The winds move more than 65 miles (105 kilometers) per hour and may exceed 200 miles (320 kilometers) per hour.

There are three main jet streams in the upper *troposphere,* the layer of the atmosphere nearest the earth. They occur at altitudes of 6 to 9 miles (10 to 15 kilometers) above the ground. These three jet streams are (1) the polar jet, (2) the subtropical jet, and (3) the equatorial jet. Their paths are shown on the maps in this article.

The polar jet flows from west to east. In the Northern Hemisphere, its position varies so much that it is not shown on the map, but it generally lies between 30° and 60° north latitude (see **Latitude**). The subtropical jet also travels in an easterly direction. The polar jet and the subtropical jet both weaken during the summer and move farther north. The equatorial jet flows from east to west. Unlike the polar and subtropical jets, it does not circle the earth. It occurs only over Southeast Asia and Africa and only in the summer.

Other jet streams occur at higher altitudes than those found in the troposphere. For example, the *polar night jet* is in the *stratosphere,* the atmospheric layer above the troposphere. It moves in an easterly direction and occurs only during the winter.

Jet streams were not widely known until World War II (1939-1945), when American and German pilots encountered them at high altitudes. These strong winds can significantly affect the speed of aircraft flying in or near



Jet streams are fast-flowing air currents that move around both the Northern and Southern hemispheres at high altitudes. The jet streams shown on these maps occur in the *troposphere,* the layer of the atmosphere closest to the earth. These air currents flow from west to east, except the one nearest the equator. This current flows toward the west.

them. In addition, the force of the winds in and near jet streams may cause aircraft in their vicinity to experience turbulence. Jet streams also influence the earth's weather. These air currents are often associated with storms and even tornadoes. Wayne M. Wendland

Jetty is a pier or wall built out from the shore of a river, lake, or ocean to control the flow of water. A jetty at a river mouth or harbor entrance may deepen a channel leading into the river or harbor so that ships will not run aground. A jetty also may extend a channel in order to prevent sand from blocking the channel's mouth. A type of jetty called a *groin* protects shores from erosion by trapping sand and silt. Jetties may be made of timber, stone, concrete, or steel, sometimes in combination with sand.

A jetty deepens a channel by narrowing it, causing the water flowing out of the channel to move faster. The faster-moving water picks up more particles of sand or mud from the bottom of the channel, thus deepening it. In areas where currents deposit sand around a channel's mouth, a jetty can extend the length of the channel to make the current carry sand away from the mouth.

The Columbia River, which empties into the Pacific Ocean, has one of the world's longest jetties. Its south jetty is about $6\frac{1}{2}$ miles (10.5 kilometers) long. The harbor has a mechanically dredged channel 55 to 60 feet (17 to 18 meters) deep. William E. Saul

Jew. See **Jews.**

Jewel is a *fashioned* (cut) gemstone or a pearl. Jewels are generally set in precious metals and worn primarily as ornaments for personal adornment. *Jewel* also refers to the pivot bearing in a watch. See also **Crown; Gem;** Jewelry. John S. Lizzadro

Jewel Cave National Monument, in western South Dakota, contains one of the longest cave systems in the United States. For the area of the monument, see **National Park System** (table: National monuments).

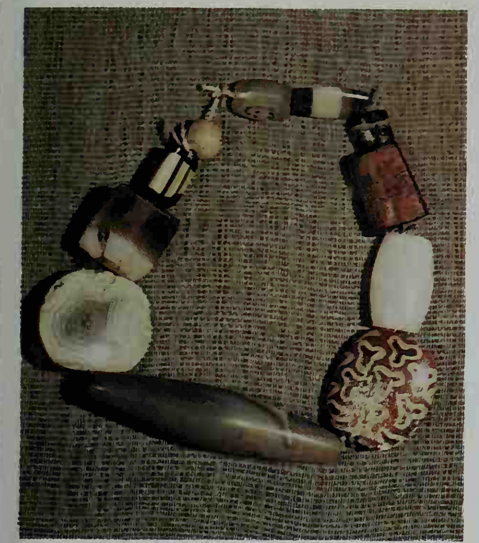
Jewelry refers to the ornaments people wear. The most common types are bracelets, brooches, earrings, necklaces, and rings. Jewelry has been chiefly used for personal decoration. But it has also been worn for religious or magical purposes, or as a symbol of wealth or

U.S. Army Corps of Engineers, Portland District



A jetty is used to extend or deepen a channel by increasing the current. This photograph shows the jetty located at the mouth of Oregon's Umpqua River.

Kinds of jewelry A prehistoric necklace, *below left,* consists of polished stones. An ancient Roman gold bracelet, *lower left,* has the form of a serpent. Chinese hair ornaments, *below right,* were made of amber, metal, pearls, and feathers. Indians of Peru wore gold and turquoise ear ornaments, *lower right.*



New Delhi Museum, India (SCALA/Art Resource)



The Metropolitan Museum of Art, New York City, Gift of Shoji Yamanaka, in memory of Alan Priest, 1978



Naples National Museum, Italy (Art Resource)



© Lee Boltin

status. Most fine jewelry consists of precious metals and gems created in artistic designs. Gold is the chief metal used, but silver and platinum are also widely used.

Early jewelry. Prehistoric jewelry consisted largely of crude necklaces and bracelets. They were made of leather or reeds strung with pebbles, berries, feathers, shells, or animal bones. People used decorative thorns or sharp bones to hold clothing together. Eventually, people pierced their ears, lips, and noses to wear such objects. People wore jewelry as part of religious ceremonies or to show rank. They believed certain jewelry could prevent sickness and protect them from bad luck.

Gradually, people learned to make jewelry from ivory, wood, and metal. As early as 3500 B.C., craftworkers discovered that gold heated with fire could be pounded into thin sheets and then shaped. Silver, copper, and bronze were also used.

By the late 2000's B.C., Egyptians were using gemstones in such jewelry as bracelets, brooches, headdresses, pendants, and rings. They believed that gems had magical powers and wore them for good luck.

The ancient Egyptians made jewelry from a variety of gemstones as well as from glass, faience, and enamel. They wore beaded *collars,* which covered the shoulders and chest; breast ornaments called *pectorals;* and crownlike *diadems.* Egyptians also wore bracelets, anklets, earrings, and rings. The Egyptians included jewelry in tombs because they believed it would be useful in the afterlife.

The Greeks valued fine metalwork in their jewelry and rarely used inlaid gems. Greek jewelry featured beautiful *filigree,* a lacelike decoration made by twisting fine wires of gold or silver into patterns.

Unlike the Greeks, the Romans often used gems in



National Gallery of Art, Washington, D.C., Widener Collection



WORLD BOOK photo

Beautiful necklaces illustrate contrasting styles of jewelry design. The highly decorated necklace shown at the left was made of enameled gold and jewels during the 1500's. The modern silver necklace shown at the right reflects the streamlined design that became fashionable in the 1900's.

their jewelry. They used gold settings but placed greater emphasis on precious stones. They especially wore gems in rings. The Romans were probably the first to use rings as a symbol of engagement.

European jewelry. During the early Middle Ages, beginning in the A.D. 700's, the wearing of jewelry was almost entirely restricted to royalty and members of the royal courts. Between 1200 and 1400, a prosperous middle class rose. This class began to acquire jewelry, wearing it as a sign of social status. Gold was still the most prominent precious metal, though some bronze and silver was also used. Jewelry most often took the form of brooches, buckles, head ornaments, and rings.

Precious stones were very fashionable in the 1500's. Jewelers often set gems in heavy pendants that were fastened to the sleeve, as well as on a chain around the neck. Women wove long strands of pearls and other gems into their hairdos. The first watches were made in the early 1500's. People wore them in pendants and miniature cases. During the 1600's and 1700's, diamonds became popular as a result of advances in gem cutting.

Oriental jewelry. Jewelry became popular in China during the Song dynasty (960-1279). The Chinese favored silver, enamel, feathers, and jade. Jade was often carved or polished and combined with metal. Chinese jewelry was very delicate and elaborate and often took the form of ornate headdresses.

Japanese jewelry was similar to Chinese jewelry. However, the Japanese first used jeweled objects to decorate swords and ceremonial objects. Later, they began to wear jewelry as a personal adornment. Japanese jewelry consisted primarily of earrings, hair ornaments, necklaces, pendants, and rings.

Pre-Columbian jewelry. American Indian art created before A.D. 1500 is called *pre-Columbian* because it was produced before Christopher Columbus arrived in the New World in 1492. During pre-Columbian times, the Indians of the Inca empire inhabited large parts of South America. The Inca cultures were highly skilled at working with metals, especially gold and silver. Most of the Inca jewelry was melted down by Spanish conquerors in the 1500's. However, a few pieces survived. These include large round rings, armbands, headdresses, masks, ornate necklaces, and earrings.

The Maya Indians of southern Mexico and Central America made jewelry of gold, jade, and other materials in the region. The Maya created bracelets, large necklaces, and ceremonial masks with geometric designs.

Modern jewelry. Most jewelry today is machine made. However, many expensive pieces are created by hand. Fine American Indian jewelry is still handcrafted. Many people make jewelry as a hobby. *Costume jewelry,* which is inexpensive mass-produced jewelry, is also popular. Pansy D. Kraus

Related articles. See the Gem article for a list of the stones and minerals that are used in jewelry and have separate articles in *World Book.* See also the following articles:

Cameo
Etruscans (picture)

Additional resources

Codina, Carles. *The Complete Book of Jewelry Making.* Lark Bks., 2000.
Jewelry. Martingale & Co., 2000.
Phillips, Clare. *Jewels and Jewelry.* Watson-Guptill, 2000.
Watkins, David. *Jewellery.* Sterling Pub., 2000.

Jewett, *JOO iht,* **Sarah Orne,** *awrn* (1849-1909), was an American author. She became known for her short stories about the seaport villages and rural communities of New England, especially her native state of Maine. Jewett dealt with her subjects in a colorful, yet honest, realistic, and unsentimental way. She ranks among the leading *local color* writers of her time. Local color writing describes the customs and other characteristics of a particular time or place.

Jewett established her literary reputation with *Deephaven* (1877), a collection of sketches about life in rural Maine. Her most important work is *The Country of the Pointed Firs* (1896), a collection of sketches and tales about the people who live in an isolated Maine seaport. Jewett also wrote novels, poetry, and children's stories.

Jewett was born on Sept. 3, 1849, in South Berwick, Maine, and died there on June 24, 1909. The town became the scene of many of her stories. She often accompanied her father, a doctor, on visits to his patients. Those visits deepened Jewett's sympathetic understanding of the lives of New Englanders. Ronald T. Curran

Jewfish. See Goliath grouper.

Jewish calendar. See Calendar (The Hebrew calendar).

Jewish community centers are agencies that offer a wide variety of cultural, educational, recreational, and social activities for Jews of all ages. Some Jewish community centers are called Young Men's and Young Women's Hebrew Associations, or YM-YWHA's.



JCC Association

Jewish community centers (JCC's) offer a range of cultural, educational, recreational, and social activities. In this picture, an adult assists a child with an art project at a JCC summer camp.

Jewish community centers—often called JCC's—offer informal programs in such areas as arts and crafts, dance, drama, health, literature, music, and Jewish culture and education. Activities include camping and such sports as basketball, racquetball, softball, swimming, tennis, and volleyball. The centers also offer group discussions and lectures, and special programs for people with disabilities. The activities are directed by social workers and by specialists in the arts, child education, adult Jewish education, and health and physical education.

Centers in the United States and Canada are affiliated with JCC Association (formerly known as the Jewish Welfare Board). JCC Association provides the centers with published program materials, professional guidance in program planning, and technical advice on administration, building construction, and operation of camps. JCC Association also recruits and places social workers, health and physical-education instructors, Jewish education specialists, and cultural arts workers for the centers.

Jewish community centers trace their origin to 1854, when the first Young Men's Hebrew Association opened in Baltimore. The first Young Women's Hebrew Association was founded in New York City in 1888.

Critically reviewed by JCC Association

Jewish feasts. See Judaism.

Jewish literature. See Hebrew literature; Yiddish literature.

Jewish Theological Seminary of America is the academic center of Conservative Judaism. Its main campus, in New York City, houses a number of schools, including the Rabbinical School, the Cantors Institute and Seminary College of Jewish Music, the Graduate School, and the Albert A. List College of Jewish Studies, which provides a joint undergraduate degree with either Barnard College or Columbia University. The Jewish Museum in New York, the University of Judaism in Los Angeles, and the Bet Midrash-Seminary of Judaic Studies in Jerusalem are affiliates of the Jewish Theological Seminary of America. The seminary was established in 1886.

Critically reviewed by the Jewish Theological Seminary of America

Jewish Women, National Council of, is a volunteer organization in the United States that sponsors educational and community service programs for children, teen-agers, and the elderly. The organization is also concerned with such subjects as constitutional rights, women's issues, the aging, Jewish life, and Israel.

The National Council of Jewish Women (NCJW) has also supported affordable, quality child care. It founded the Research Institute for Innovation in Education at Hebrew University in Jerusalem in 1968. The institute conducts projects to help the disadvantaged. In 1983, the NCJW established the Center for the Child, which promotes the well-being of children and families in the United States.

The NCJW was founded in 1893. Its headquarters are in New York City.

Critically reviewed by the National Council of Jewish Women

© Charles Harbutt, Magnum

Jews from many nations come to Jerusalem to pray at the Western Wall, *above,* one of Israel's holiest shrines. The structure, also called the Wailing Wall, is all that remains of the Jews' holy Temple from Biblical times. It has long been a symbol of Jewish faith and unity.

Jews

Jews are the descendants of an ancient people called the Hebrews. During Biblical times, the Hebrews—who came to be called Israelites—lived in what is now Israel. But their country fell to a series of conquerors, and the Jews scattered throughout the world. By the A.D. 700's, they had established communities as far west as Spain and as far east as China.

The Jews have had great influence on history. They produced the Hebrew Bible, which, with its belief in one God and its moral teachings, became a cornerstone of two world religions, Christianity and Islam. But Jewish history has been full of tragedy. The Jews were a minority group almost everywhere they settled, and they often suffered persecution. During World War II (1939-1945), about 6 million Jews died in the Nazi campaign of mass murder known as the *Holocaust.*

Jews have always considered Israel their spiritual home. Beginning in the late 1800's, many Jews from Eastern Europe immigrated to Israel, then called Palestine. Many more Jews came to Palestine following the Holocaust. The state of Israel was founded in 1948.

Because of the long and varied history of the Jews, it is difficult to define a Jew. There is no such thing as a Jewish race. Jewish identity is a mixture of religious, historical, and ethnic factors. According to Jewish law, anyone born to a Jewish mother or converted to Judaism is considered a Jew. The branch of Judaism that is known as *Reform Judaism* also accepts as Jews children born to a non-Jewish mother and a Jewish father.

Elliot B. Lefkovitz, the contributor of this article, is Adjunct Professor of History at Loyola University and Spertus Institute of Jewish Studies.

There are two broad groups of Jews. Most *Ashkenazim* are descendants of members of Jewish communities of central and Eastern Europe. The *Sephardim* are descendants of Jews from Spain, Portugal, or other Mediterranean countries and the Middle East. Other groups of Jews include those descended from Jewish communities of Ethiopia and India.

There are about 13 million Jews in the world. The largest Jewish population—about 6 million—lives in the United States. About 4 $\frac{3}{4}$ million Jews live in Israel. Other countries with large numbers of Jews include France, Russia, Britain, Canada, and Argentina.

This article traces the history of the Jewish people throughout the world. For additional information about the history of Jews in Israel, see the *World Book* articles on **Israel** and **Palestine.** For more information about the Jewish religion, see **Judaism.**

Early history of the Jewish people

Beginnings. The Jews trace their ancestry to a shepherd named Abraham, who lived sometime between 1800 and 1500 B.C. in southern Mesopotamia (now southeastern Iraq). According to the Bible, God told Abraham to leave Mesopotamia and settle in Canaan, the area that later became Israel. There, Abraham founded the people known as the Hebrews. Abraham, his son Isaac, and his grandson Jacob—also named Israel—are the *patriarchs* (fathers) of the Jewish people. The *matriarchs* (mothers) are Sarah (Abraham's wife), Rebecca (Isaac's wife), and Leah and Rachel (Jacob's wives). Jacob had 1 known daughter, Dinah, and 12 sons. By order of birth, they were Reuben, Simeon, Levi, Judah, Dan, Naphtali, Gad, Asher, Issachar, Zebulun, Joseph, and

Benjamin. During the early centuries of their history, the Hebrews were organized into groups that traced their descent to Jacob's sons. They called themselves the *Twelve Tribes of Israel,* or Israelites. The Bible describes how Jacob's son Joseph was sold into slavery in Egypt. Joseph's wisdom and honesty enabled him to become prime minister to the Egyptian pharaoh. Joseph invited the Israelites to Egypt after a famine struck Canaan. The Israelites lived peacefully in Egypt for many years until a new pharaoh enslaved them.

The Exodus. The Bible tells how a leader named Moses led the Israelites out of Egypt. According to the Bible, God helped the Israelites escape from slavery. The Jewish festival of Passover celebrates their deliverance, called the Exodus. Most scholars believe that the Exodus took place in the 1200's B.C.

According to tradition, God dictated His laws to Moses in a collection of teachings called the Torah after the Israelites left Egypt. Most scholars believe the Torah was written down much later. The Bible says that after receiving the Torah, the Israelites wandered in the wilderness for 40 years. Moses died before his people entered Canaan, but his successor, Joshua, led them into their old homeland. For about 200 years, the Israelites struggled to reestablish themselves in Canaan. They fought the Canaanites, the Philistines, and other peoples. This time is known as the period of the Judges. The Judges served as judicial and military leaders who united the Israelites in times of crisis. Deborah, Gideon, Samson, and Samuel were some famous Judges.

The kingdom of Israel. About 1029 B.C., the threat of warfare with the Philistines led the Israelites to choose a king, Saul, as their leader. Saul's successor, David, unified the people and founded the kingdom of Israel. Under David and his successor Solomon, the kingdom grew in size and power. David captured the city of Jerusalem from a people called the Jebusites and made it his capital. Solomon built a magnificent place of worship in Jerusalem. The Temple, known today as the First Temple, served as the center of religious life.

The divided kingdom. After Solomon died in about 928 B.C., the 10 northern tribes split away from the tribes of Benjamin and Judah in the south. The northern kingdom continued to be called Israel and had its capital in Samaria. The southern tribes kept Jerusalem as their capital and called their kingdom Judah. The word *Jew* comes from *Judah.* The kings of Judah came from the house of David. In the kingdom of Israel, there were struggles for power between various families.

During this period, religious teachers called *prophets* developed many of the principles of Judaism. The Bible contains the teachings of the major prophets, Isaiah, Jeremiah, and Ezekiel, and 12 minor prophets.

Foreign domination. In 722 or 721 B.C., the empire of Assyria conquered the northern kingdom. The people of Israel were exiled and scattered. They disappeared as a nation and became known as the *ten lost tribes.*

In 587 or 586 B.C., the Babylonians conquered Judah, destroyed the Temple, and took many Jews to Babylonia as prisoners. This period is called the *Babylonian Exile.* Unlike the ten lost tribes, the people of Judah did not lose their identity. Inspired by the prophet Ezekiel, they continued to practice their religion. The first *synagogues* (Jewish houses of worship) were probably developed by the Jews in Babylonia.

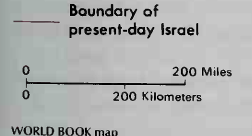
In 539 B.C., King Cyrus of Persia conquered Babylonia. The next year, Cyrus allowed the Jewish exiles to return to Judah. Many Jews returned and rebuilt the Temple, which became known as the Second Temple. However, some Jews remained in Babylonia. This was the first time since the Exodus that Jews had chosen to live outside Israel. Later, the communities of Jews scattered outside Israel became known as the Diaspora.

The Hellenistic period. Alexander the Great of Macedonia conquered the Persians in 331 B.C., and Judah came under his control. Alexander and his successors, the Ptolemies in Egypt and the Seleucids in Syria, brought *Hellenistic* (Greek) culture to the Jews. The Jews were allowed to follow their own religion. But in 168 or 167 B.C., King Antiochus IV of Syria tried to stop the practice of Judaism. The Jews, led by the warrior Judah Maccabee, revolted and overthrew the Syrians. The holiday of Hanukkah celebrates their victory. Judah Maccabee's family, the Hasmoneans, established an independent state that lasted about 80 years.

Under Hasmonean rule, different religious groups

The land of the early Jews

Abraham, the ancestor of the Jews, settled in Canaan (later called Palestine) between about 1800 and 1500 B.C. At first, the Jews were divided into tribes. About 1000 B.C., they united to form the Kingdom of Israel, later called Judah or Judea. These maps show the changing boundaries of the area where the Jews lived during Biblical times.





The Kingdom of Israel was formed about 1000 B.C. and reached the height of its power during the 900's B.C.



The divided kingdom resulted from a split in the 900's B.C. between Israel in the north and Judah in the south.



An independent nation also called Judah existed in Palestine about 100 B.C. It was ruled by the Hasmoneans.

developed within Judaism. The groups disagreed over such matters as the *oral law*—the traditional interpretation of the Torah. The Pharisees believed God had revealed the oral law along with the Torah. Pharisees taught in synagogues and were supported by the common people. The Sadducees accepted only the Torah and found support among the rich and the temple priests. A third group, the Essenes, stressed personal holiness, through strict rules that included the sharing of property in communities apart from society.

Roman rule. In 63 B.C., the Romans conquered Judah, which they called Judea. Roman rule was generally harsh. The most famous ruler of Judea during this time, Herod the Great, is known for both his ruthlessness and his building activities.

Jesus was a Jew who was born in Judea. The Romans executed Jesus because they thought he was a threat to their rule. Jesus's followers, who came to be called Christians, believed that God sent Jesus to the world as the *Messiah* (Savior). Most Jews kept their traditional beliefs and did not accept Jesus as the Messiah.

The Jews revolted in A.D. 66 and drove out the Romans for a time. But in 70, the Roman general Titus conquered Jerusalem, destroyed the Temple, and took many Jewish captives to Rome. The Western, or Wailing, Wall in Jerusalem is all that remains of the Temple.

Some Jews, called Zealots, refused to surrender even after Jerusalem fell. Many Zealots retreated to a mountain fortress called Masada, where 960 men, women, and children held out for three years. As the Romans were about to conquer the fortress, the defenders supposedly committed suicide rather than surrender.

Under the spiritual leadership of the scholar Rabbi Akiva Baer ben Joseph, a warrior named Simeon Bar Kokhba led the Jews to rebel again in 132 and seize Jerusalem. In 135, the Romans crushed this final rebellion.

The Talmudic period and the Middle Ages

The Talmudic period. After the defeat of Bar Kokhba, the Romans prohibited Jews from living in Jerusalem. New centers of Jewish learning arose in Galilee, an area in northern Palestine; and in Babylonia. The Sanhedrin, the Jews' religious lawmaking body, met in Galilee. In about 200, the head of the Sanhedrin, Rabbi Judah ha-Nasi, wrote down the oral law in a book called the Mishnah. From about 200 to 500, other scholars collected interpretations of the Mishnah into a work called the Gemara. The Mishnah and the Gemara together form the Talmud. Two versions of the Talmud were created, one in Galilee (the Palestinian or Jerusalem Talmud) and the other in Babylonia (The Babylonian Talmud). See Talmud.

For many centuries, Jews throughout the world turned to the Babylonian Jewish community for religious and scholarly leadership. Jews sent questions of law and interpretation to scholars at Babylonian academies called *yeshivas*. The greatest such scholar, Saadia Gaon, lived in the late 800's and early 900's.

The Jews under Islam. In the mid-600's, Arabian Muslims founded an empire that soon included southwestern Asia, northern Africa, and Spain. The Muslims permitted Jews and Christians to practice their own religions. But both Jews and Christians had to pay a special tax and were not equal to Muslims under the law.



Detail (about A.D. 239) from the west wall of the Second Synagogue, Dura Europas, Syria; National Museum of Damascus (Art Resource)

David ruled the kingdom of Israel about 1000 to 960 B.C. Under his rule, the kingdom grew in size and power. This wallpainting shows the prophet Samuel anointing David king.

Large Jewish communities existed in such Muslim lands as Babylonia, Egypt, Morocco, and Yemen. But the greatest center of Jewish culture arose in Muslim Spain. The period from the 900's to the 1100's in Spain is known as the Golden Age of Jewish history. Jews worked in crafts, in medicine and science, and in business and commerce. Some rose to high positions in government. Outstanding writers of the time included physician and philosopher Moses Maimonides, poet and philosopher Solomon ibn Gabirol, and poet Judah Halevi.

Jews in Christian Europe. After the fall of the Roman Empire, the Christian Church became the most powerful force in Europe. In the early Middle Ages, the Jews lived fairly peacefully with their Christian neighbors. Many Jews became merchants. Others practiced trades or owned land. Many Christians respected the Jews for their contributions to society. But some Christians blamed the Jews for the death of Jesus and mistrusted them because they would not accept Christianity. Such hatred of Jews later became known as *anti-Semitism*.

The situation of the Jews became worse beginning in 1096, when a series of military expeditions called the *Crusades* began. These campaigns to free the Holy Land from the Muslims stirred a wave of intense feeling against non-Christians. The Crusaders killed many Jews and sometimes massacred entire Jewish communities. The Crusades marked the beginning of a long period of Jewish *martyrdom* (death for a belief).

The Jews were seen by Christians more and more as outsiders. Some Christians accused Jews of bringing on the troubles of society. In the mid-1300's, a terrible plague, now known as the Black Death, swept Europe, eventually killing from a fourth to half of the population. Many Christians unfairly blamed the Jews for the Black Death, and mobs killed thousands of Jews. Christians commonly accused Jews of murdering Christian children as part of their religious rituals. This accusation, which became known as the *blood libel*, was used as an excuse to attack Jews.

Political and religious leaders required Jews in certain areas to wear badges or special clothes that identified them as Jews. In numerous cities, Jews were forced to

live in separate communities that became known as *ghettos*. Jews also lost the right to own land and to practice certain trades. To earn a living, many Jews became peddlers or moneylenders.

Beginning in the late 1200's, the Jews were expelled from England, France, and parts of central Europe. Many settled in Eastern Europe, especially Poland.

To avoid persecution, some Jews in Spain and Portugal, which had become Christian countries, pretended to convert to Christianity but continued to practice Judaism secretly. These Jews were known as *Marranos*. Ferdinand and Isabella, the king and queen of Spain, established a special court called the *Inquisition* to punish people suspected of not following Christian teachings. The Inquisition used torture to force confessions from its victims, many of whom were Marranos. In 1492, Jews who had not converted to Christianity were expelled from Spain. Soon after, Jews were forced to leave Portugal. Many Jews fled to what are now Italy and Turkey. Some went to Palestine, where they studied the *Kabbalah,* the Jewish mystical tradition (see **Kabbalah**).

In the 1500's, a movement called the *Reformation* led to the development of Protestantism in Europe. It seemed that the situation of the Jews might improve. But when the Jews failed to convert to the new branch of Christianity, persecution continued.

Eastern European religious movements. Jewish life in Poland flourished in the 1500's. But in 1648 and 1649, the massacre of thousands of Jews in Ukraine—then a part of Poland—began a time of crisis for Polish Jews. Many hoped for someone to save them.

In 1665, a Jew named Shabbetai Zevi claimed to be the Messiah. Hundreds of thousands of Jews in Europe and the Middle East believed in Shabbetai. But Shabbetai converted to Islam, disappointing his followers.

Throughout Jewish history, learning and study had formed the foundation of Jewish life and culture. In the mid-1700's, a movement called *Hasidism* developed among Jews of Eastern Europe. Hasidism, founded by a Polish teacher known as Ba'al Shem Tov, stressed joyful worship over the study of the Talmud. Most followers of Hasidism, called *Hasidim,* were ordinary people. Opponents of Hasidism, called *Mitnaggedim,* considered Hasidism's noisy praying and dancing undignified. They also looked down on the Hasidim as uneducated. Today, some Jews in Europe, Israel, and the United States still practice Hasidism. See **Hasidism.**

The modern world

Emergence into freedom. At about the time that Hasidism developed in Eastern Europe, a movement called the *Haskalah* (Enlightenment) arose in Western Europe. The Haskalah, founded by German Jewish philosopher Moses Mendelssohn, called on Jews to modernize their religious thinking. The movement stressed the importance of nonreligious, as well as Jewish, education. See **Haskalah.**

As the Haskalah modernized Jewish religious thinking, other forces were working to free the Jews from discrimination. In France, the ideas of liberty and equality that took hold during the French Revolution (1789-1799) led many Christians to demand equal rights for all. French Jews were *emancipated* (given equal rights) in 1791. The French general and emperor Napoleon Bonaparte brought the idea of emancipation to countries outside France. By the end of the 1800's, most Western and Central European Jews had been emancipated.

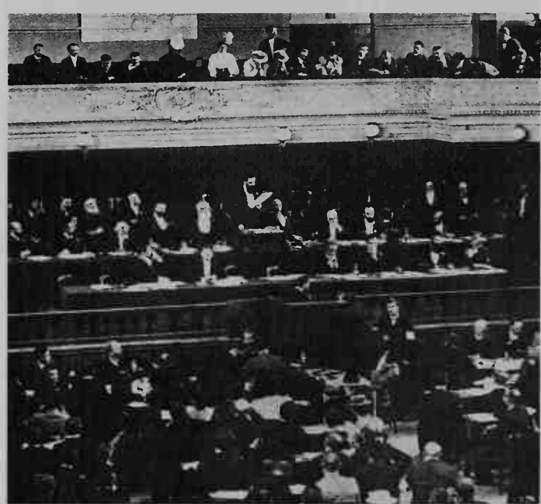
During the early and mid-1800's, two new branches of Judaism developed. They were called *Reform* and *Conservative*. See **Judaism** (The branches of Judaism).

Jews in America. The first Jews to arrive in the American colonies settled in what is now New York City in 1654. Jews also established sizable communities in Charleston, S.C.; Newport, R.I.; Philadelphia; and Savannah, Ga. During the Revolutionary War in America (1775-1783), many Jews fought in the colonial army. A Jewish financier named Haym Salomon gave much of his fortune to help the newly established United States government. Jews gained full legal equality in the new nation, and many Jews immigrated to escape anti-Semitism in their native lands. By the 1920's, U.S. Jews were the largest and most secure Jewish community in the world, though they still suffered discrimination.

The growth of anti-Semitism. During the late 1800's, anti-Semitism became a powerful force in European politics, especially in Germany, Austria-Hungary, and France. Many anti-Semitic writers tried to prove that Jews were inferior to Germans and other peoples of northern Europe, whom the writers called Aryans.

Jews also suffered from anti-Semitism in Eastern Europe. Unlike the Jews of Western Europe, those of the east had never been emancipated. In Russia, Jews were crowded in an area along the western border called the *Pale of Settlement*. Beginning in 1881, many Jews were killed in a series of massacres called *pogroms*. The pogroms caused hundreds of thousands of Jews to flee to the United States. Some fled to Palestine.

The Zionist movement. Many Jews saw an independent Jewish state in Palestine as the best escape from anti-Semitism. They established a movement called *Zionism* to establish such a state. In the late 1800's, Palestine was a poor, thinly populated region ruled by the Turkish Ottoman Empire. Most of its people were Mus-



Central Zionist Archives, Jerusalem

The Zionist movement grew out of the Jews' longing for a national homeland. Theodore Herzl, a founder of Zionism, spoke to the Second Zionist Congress in Basel, Switzerland, in 1898.

lim Arabs, though a small number of Jews also lived there. The Zionists bought land in Palestine and established farming communities. The first all-Jewish city, Tel Aviv, was founded in 1909.

In 1894, the trial of Alfred Dreyfus, a French army officer and Jew who had been falsely accused of treason, helped convince Theodor Herzl, an Austrian Jewish journalist, that Jews could never be secure until they had a nation of their own. In 1897, at the First Zionist Congress, Herzl organized the Zionist movement on a worldwide scale. See **Zionism.**

During World War I (1914-1918), many Jews in Palestine fought with the British against the Ottomans. In 1917, Britain issued the Balfour Declaration, supporting the idea of a Jewish national home in Palestine. In addition, Britain promised Arab leaders support for an Arab state. The Arabs believed this state would include Palestine.

In 1918, the British captured Palestine from the Ottomans. The League of Nations—a forerunner of the United Nations—gave Britain temporary control of Palestine in 1920. In the 1920's and 1930's, Jewish immigration to Palestine increased, despite Arab opposition. See **Palestine** (World War I and the Balfour Declaration).

Beginnings of Nazi persecution. Germany's defeat in World War I and a worldwide depression in the 1930's left the German economy in ruins and made many Germans angry and resentful. Adolf Hitler, leader of the Nazi Party, came to power in 1933. He blamed the Jews for Germany's troubles and began a vicious campaign against them. In 1935, the Nazis deprived German Jews of citizenship. They seized Jewish businesses and destroyed synagogues. Many Jews fled Germany. Others were trapped because no country would admit them. Most nations had restrictive immigration policies, and the Depression led workers to fear that Jewish refugees would take their jobs. Beginning in 1939, Britain bowed to Arab pressure and limited immigration to Palestine.



AP/Wide World

The Holocaust was a vicious campaign against the Jews and others by the Nazis. This picture shows piles of bodies at the Dachau concentration camp after it was liberated in 1945.



Israel Government Press Office

Israel's declaration of independence in 1948 led to the first Arab-Israeli war. Hours after Israeli leader David Ben-Gurion read the declaration, *shown here,* Arab forces invaded Israel.

The Holocaust. World War II began in 1939. The Nazis soon conquered large parts of Europe, bringing most European Jews under their domination. The Nazis then began their campaign to exterminate all Jews. Firing squads shot more than 1 million Jews. About 4 million more were killed in concentration camps (see **Concentration camp**). Many others died from disease and starvation. By 1945, about 6 million Jews had been murdered—two of every three European Jews.

Several Jewish revolts against the Nazis took place in ghettos, slave labor camps, and death camps. The most famous revolt occurred in 1943, in the Warsaw ghetto. Although the Jews were surrounded and poorly armed, some held out for about four weeks. Many Jews who managed to escape the ghettos joined bands of fighters called *partisans* who performed acts of sabotage.

In most occupied countries, the local people were indifferent to the Holocaust. Some helped the Nazis. But some non-Jewish individuals risked their lives to save Jews. Swedish diplomat Raoul Wallenberg saved about 100,000 Hungarian Jews. The Danish underground saved 7,000 Jews, most of the Jews of Denmark.

The rebirth of Israel. The Holocaust left the Jewish people wounded in spirit and greatly reduced in numbers. But out of the tragedy came a new determination to establish a Jewish state in Palestine. The Arabs there continued to oppose this plan, and violence often broke out between Arabs and Jews. In 1947, the United Nations recommended that Palestine be divided into Arab and Jewish states. The Jewish state, which called itself Israel, declared its independence on May 14, 1948. The next day, neighboring Arab countries invaded Israel. Israel defeated the invaders, and hundreds of thousands of Jews flocked to the Jewish state.

The Arabs continued to oppose Israel, and full-scale wars broke out in 1956, 1967, and 1973. However, despite its constant struggle with its neighbors, Israel kept a democratic form of government and became one of

the most prosperous countries in the Middle East.

The Jews today. Today, Jewish life continues to thrive, both in Israel and in the Diaspora. But the Jews of each area face many challenges.

The Jews of Israel still face the threat of conflict with neighboring Arab states. In addition, they must confront the social, military, and moral issues stemming from conflict with Palestinian Arabs living in lands occupied by Israel. See **Israel** (Recent developments).

Israel still flourishes as a refuge for Jews. Among the most recent immigrants are hundreds of thousands of Jews from Russia, Ukraine, and other former republics of the Soviet Union. The large number of immigrants has led to overcrowding and unemployment.

In the Diaspora. For many years, the main centers of Jewish life in the Diaspora were the United States and the Soviet Union. In the Soviet Union, Jews suffered widespread discrimination. The government discouraged religious practice, and it restricted emigration to other countries. In the 1970's and 1980's, Soviet Jews attracted worldwide attention with demonstrations demanding the right to emigrate and to observe Jewish customs. In 1987, the government began to permit an increasing number of Jews to emigrate to Israel. After the Soviet Union was dissolved in 1991, Jews continued to move to Israel from the former Soviet republics.

In the United States, Jews have increasingly adopted the culture of the non-Jewish society in which they live. A growing number of American Jews do not practice Judaism, and many know little about Jewish traditions or history. Some Jews fear that this process, called *assimilation,* will cause Jews to lose their identity. A rising rate of intermarriage also contributes to the concern. But many other American Jews are experiencing a renewed interest in their heritage. A growing number worship in religious groups called *havurot.* Many send their children to Jewish day schools. Elliot B. Lefkovitz

Related articles. See **Israel, Judaism,** and **Palestine** and their lists of *Related articles.* See also:

Organizations and institutions

B'nai B'rith
Hadassah
Jewish community centers
Jewish Theological Seminary of America
Jewish Women, National Council of
Synagogue Council of America
United Jewish Communities
Women's American ORT
World Jewish Congress

History

Abraham
Babi Yar
Clothing (Ancient times)
Concentration camp
Essenes
Genocide
Ghetto (Early ghettos)
Hasidism
Haskalah
Holocaust
Isaac
Jacob
Jerusalem
Judea
Kristallnacht
Masada
Pharisees
Sanhedrin
Schindler, Oskar
Segregation
Wallenberg, Raoul
Warsaw (History)
Western Wall
Zionism

Other related articles

Anti-Semitism
Calendar (The Hebrew calendar)
Dead Sea Scrolls
Ethnic group
Gaucher's disease
Hebrew language
Hebrew literature
Immigration (Asia)
Minority group (Jews)
Semites
Star of David
Tay-Sachs disease
Yiddish language
Yiddish literature

Additional resources

Level I

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Shamir, Ilana, and Shavit, Shlomo, eds. *The Young Reader's Encyclopedia of Jewish History.* Viking, 1987.
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Level II

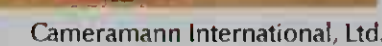
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Jew's-harp is a small musical instrument that is used mainly in folk music and by children. The jew's-harp consists of a flexible, metallic reed at one end of a curved metal frame. The other end of the reed is tapered and bent forward at a right angle. Players hold the metal frame against their lips and make the reed vibrate by hitting its forked end with their free hand. Players are able to produce different notes by changing the size and shape of the mouth cavity.

The name is probably a corrupt form of *Jaw's Harp.* Musical instruments similar to the jew's-harp have been found in various parts of the world, including Borneo, China, Japan, and Siberia. The jew's-harp has been played in China since the 1100's and in Europe since the 1300's. Valerie Woodring Goertzen







Cameramann International, Ltd. Caryle Calvin

The jew's-harp consists of a flexible metal strip within a metal frame. A player holds the frame in the mouth and creates musical notes by striking the metal strip with the finger.

Jiang Qing, *jee ahng cheeng* (1914-1991), also spelled *Chiang Ch'ing,* was a Chinese political leader. She was married to Mao Zedong, China's top political leader, from about 1939 until Mao's death in 1976. Jiang led China's radical faction. This faction consisted of Chinese who supported Mao during the Cultural Revolution in China from 1966 to 1969 (see **China** [The Cultural Revolution]). Under Jiang's leadership, many Chinese dramas and operas were rewritten so that they presented examples of the changes in Chinese government and Chinese society favored by Mao. In 1969, she was elected to the Politburo, the most powerful ruling body of China.

After Mao's death, Hua Guofeng and Deng Xiaoping became China's main leaders. The government of Hua and Deng publicly denounced Jiang and three of her

followers—Wang Hongwen, Yao Wenyuan, and Zhang Chunqiao. The government referred to Jiang and her followers by the scornful name of the Gang of Four. It accused the Gang of Four of failing to follow Mao's teachings and of harming China's development.

The four were removed from their positions and arrested. In 1980, the government charged them with treason and put them on trial. The four were convicted in 1981. Jiang and Zhang received death sentences. Their sentences were suspended, but they remained in prison. Wang was sentenced to life imprisonment, and Yao to 20 years. In January 1983, the sentences of Jiang and Zhang were reduced to life imprisonment.

Jiang was born in Shandong (or Shantung) Province. At age 15, she left home. She studied drama and acted in motion pictures in Shanghai. She joined the Communist Party in 1933. Arif Dirlik

Jiang Zemin, *jee ahng zeh meen* (1926-), became general secretary of the Chinese Communist Party in 1989. The general secretary is China's most influential leader. Until the early 1990's, however, Deng Xiaoping had the most influence (see **Deng Xiaoping**). Jiang succeeded Zhao Ziyang, who was dismissed as general secretary for supporting a prodemocracy movement in 1989. This movement involved large demonstrations by students and other citizens in which many people were killed by Chinese troops. Also in 1989, Jiang succeeded Deng as chairman of the Communist Party's Military Commission. In 1990, he succeeded Deng as chairman of the Chinese government's Central Military Commission. Deng resigned from these posts to strengthen Jiang's ties to the military, which is dominant in Chinese politics. In 1993, Jiang was named to the largely ceremonial government post of president.

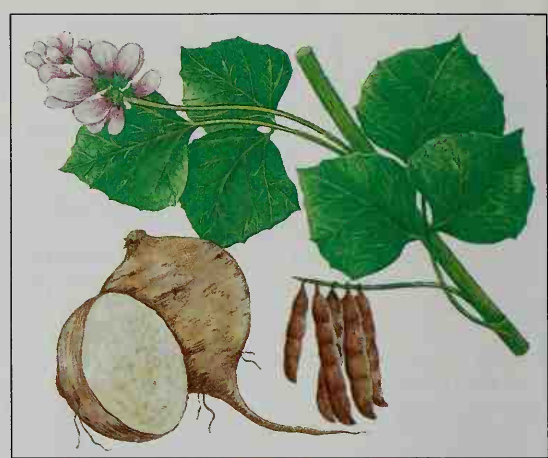

© Anderson, Gamma/Liaison
Jiang Zemin

Jiang was born in Yangzhou in Jiangsu Province. In 1947, he graduated from Jiao Tong University in Shanghai with training in engineering. In 1982, Jiang was elected to the Central Committee of the Communist Party. He was appointed mayor of Shanghai in 1985 and proved to be an effective leader. Arif Dirlik

Jicama, *HEE kuh muh,* is a type of climbing vine grown for its fleshy, edible *tubers* (thick underground stems). The jicama plant is cultivated in Mexico, Central America, China, and India. It is also called *yam bean* and *Mexican turnip.* It is a *legume* (member of the pea family) and bears seeds in pods.

Each jicama plant produces from one to several tubers. The tubers are either round like beets or long and slender like icicles. Young tubers have brown skin and sweet, white flesh. They weigh $\frac{1}{2}$ to 2 $\frac{1}{2}$ pounds (0.2 to 1.1 kilograms) when harvested. People eat the tubers of jicama plants raw in salads or as snacks. People also eat the tubers cooked in soups. The tubers of jicama plants are rich in calcium, iron, vitamin C, and protein.

The stems, leaves, pods, and seeds of jicama plants contain a chemical compound called *rotenone* and may be poisonous. Rotenone is a natural insecticide, and so jicama plants resist insect attack. Gary W. Elmstrom


WORLD BOOK illustration by Lorraine Epstein
The jicama plant is grown for its edible, nutritious *tubers* (underground stems). The tubers have brown skin and sweet white flesh. The plant bears its seeds in pods.

Scientific classification. Jicama plants belong to the pea family, Leguminosae or Fabaceae. The most common species is *Pachyrrhizus erosus.*

Jidda, *JIH duh* (pop. 2,046,251), is the chief seaport and air terminal of Saudi Arabia. The city lies on the eastern shore of the Red Sea. For location, see **Saudi Arabia** (political map). It is also spelled *Jeddah* and *Juddah.* Jidda is the gateway to the Muslim holy cities of Mecca and Medina. Muslim pilgrims from throughout the world pass through Jidda on their sacred journeys to these cities.

Jidda developed as Mecca's seaport during the A.D. 640's. Today, the city is one of Saudi Arabia's major business and industrial centers. Most of the country's banks have their headquarters in Jidda. The city's most important industries include oil refining, paper manufacturing, and shipbuilding. King Abdul Aziz International Airport, one of the world's largest airports, serves Jidda. King Abdul Aziz University is in the city. Malcolm C. Peck

Jigger. See **Chigger.**

Jim Crow refers to practices, institutions, or laws that result from or support segregation of blacks from whites. The term came into common use in the 1880's, when racial segregation was made legal in many parts of the Southern United States. The term originally referred to a black character in a popular song composed in the 1830's. *Jim Crow laws* required the separation of races in many public places. However, most of these laws were declared invalid by several Supreme Court decisions in the 1950's and 1960's and by the Civil Rights Acts of 1964 and 1968. See also **Segregation** (Jim Crow laws). Alton Hornsby, Jr.

Jiménez, *hee MAY nayth,* **Juan Ramón** (1881-1958), a Spanish poet, won the 1956 Nobel Prize for literature. His poems were identified with the literary movement called *modernism* because of their elegant style and profound emotion. Jiménez's poetry reflects his belief in the simplicity of nature and an awareness of God's eternal presence. Jiménez constantly revised his poems, and

his works greatly influenced later poets.

A good introduction to Jiménez's poetry is *Forty Poems,* translated in 1967 by the American poet Robert Bly. In Jiménez's most famous work, *Platero and I* (1914), the poet chats with his donkey, reminiscing about life in the village of Moguer, where he was born. He created lyrical descriptions that are transformed into perceptive prose poetry. Jiménez left Spain in 1936 during the Spanish Civil War. He then lived in North and South America until his death. Dick Gerdes

Jiménez de Quesada, *hee MAY nayth duh kay SAH thah,* **Gonzalo,** *gawn THAH loh* (1497?-1579), was a Spanish conqueror. He established the first Spanish settlement in the interior of what is now the South American nation of Colombia.

Quesada was born in Granada, Spain, and became a lawyer. He traveled to the Americas in 1536. Later that year, he left the settlement of Santa Marta on the Caribbean coast of Colombia and led an expedition up the Magdalena River (see **Colombia** [map]). In 1537, the group reached the plain inhabited by the Chibcha Indians. By 1538, Quesada's party had defeated the Indians and gained control over the area. He founded the town of Santa Fe de Bogotá (now Bogotá). From 1569 to 1572, he went to eastern Colombia to search for El Dorado, a fictitious kingdom of great wealth. Helen Delpar

Jimmu Tenno, also called *Jimmu,* was supposedly the first emperor of Japan and founder of the family that has ruled Japan throughout its history. Folk tales say he led a force of men from Kyushu in southwestern Japan to Yamato, the area surrounding Nara and Osaka. In 660 B.C., he became emperor. The tales are not wholly true, but a force from the southwest did form a government in Yamato. Jimmu Tenno may have existed, but the Yamato area did not emerge as the dominant region in Japan until the Kofun era, which lasted from about A.D. 300 to 710. See also **Kofun era; Mikado.** Tetsuo Najita

Jimson weed, also called *thorn apple,* is a large, bushy, poisonous plant. It grows throughout North America and is common in the central part of the United States. The jimson weed reaches a height of 5 feet (1.5 meters) and has erect white or violet trumpet-shaped flowers about 4 inches (10 centimeters) long. The jimson weed's fruits are oval-shaped and prickly.



Hans Reinhard, Bruce Coleman Ltd

The jimson weed is a large, bushy poisonous plant. It has white or violet trumpet-shaped flowers and prickly fruits.

The drug *Stramonine,* also called *daturine,* is made from the leaves and seeds of the jimson weed. The name *jimson* is a popular shortening of Jamestown, which was an early Virginia settlement. Jerry M. Baskin

Scientific classification. The jimson weed belongs to the nightshade family, Solanaceae. Its scientific name is *Datura stramonium.*

Jingoism is an attitude of boastful, warlike patriotism. A person who takes such an attitude is called a *jingo.* The term originated in the United Kingdom during the 1870's. The British government, headed by Prime Minister Benjamin Disraeli, hesitated to interfere in a war between Russia and Turkey. The term *jingo* came from this stanza in a song sung in a London music hall:

> We don't want to fight,
> But, by jingo, if we do,
> We've got the ships,
> We've got the men,
> We've got the money, too.

The same attitude of militant superiority toward other nations was called *spread-eagleism* in the United States during the 1800's. Charles O. Jones

See also **Patriotism** (Abuses of patriotism).

Jinnah, *JIHN nuh,* **Mohammad Ali** (1876-1948), was a leader in India's struggle for independence, and has been called the *great leader* and the *founder of Pakistan.* He led Muslim demands for separation from the Hindu majority in India. When Pakistan was created as an independent Muslim-majority nation in 1947, Jinnah became its first governor general. Jinnah led Pakistan in its dispute with India over control of Kashmir.

Jinnah was born on Dec. 25, 1876, in Karachi, India (now part of Pakistan). He came from a wealthy Muslim family. He studied law in England and became famous as a lawyer in London and Bombay (now Mumbai). Jinnah became permanent president of the Muslim League of India in 1934. Jinnah began demanding a separate Muslim state in 1940 because he feared that the Hindu majority would dominate an independent India.

Robert LaPorte, Jr.

See also **India** (New Constitution); **Pakistan** (The demand for Pakistan; Independence).

Jinrikisha, *jihn RIHK shuh* or *jihn RIHK shaw,* is a light two-wheeled cart once widely used as a taxicab in East Asian cities. Tourists to these cities often called the vehicle *ricksha.* The jinrikisha usually had a top, or hood, to protect passengers from the weather. The runner, or *hiki,* often pulled an occupied jinrikisha 20 to 30 miles (32 to 48 kilometers) a day. The jinrikisha was first used in Japan about 1870. Tricycles called *pedicabs* gradually replaced jinrikishas. The use of jinrikishas was declared illegal in many Chinese cities because authorities felt using "human horses" was undignified. Today, pedicabs have been replaced largely by automobiles. See also **Pedicab.** Robert C. Post

Jívaro Indians, *HEE vuh roh,* are a tribe famous for their fierceness and for their head shrinking. They live in tropical forests on the eastern slopes of the Andes Mountains in Ecuador. Although the Jívaro are spoken of as a tribe, they are split into many small groups which used to fight among themselves.

In early times, the Jívaro lived like tropical-forest Indi-


© Walter R. Aguiar

Jívaro Indians are a South American people who live in the tropical forests of Ecuador. Jívaro hunters, *above,* use blowguns.

ans of the Amazon Valley. They planted corn, tobacco, and *cassava,* a root crop. They hunted with blowguns and darts and with spears. The Jívaro fished with traps and with *barbasco,* a drug that stupefies fish so they can be speared easily. The Inca of Peru probably taught the Jívaro how to keep llamas and guinea pigs. Jívaro men usually wore a wrap-around skirt and sometimes a poncho. Jívaro women wore a full-length robe or dress.

A typical Jívaro village had only one large dwelling, which housed 40 to 80 people. Each village might be fortified with trenches filled with spears. The Jívaro were famous warriors who fought mainly to avenge the death of a relative. A victorious warrior beheaded his victim and shrank the head. This *tsantsa* became a trophy.

About 10,000 Jívaro live in Ecuador today. Most of them have given up warfare and live peaceably among themselves and with their neighbors. Roberto DaMatta

See also **Headhunter**.

Joan of Arc, Saint (1412?-1431), was a French national heroine who became a saint of the Roman Catholic Church. She was a simple peasant girl who rescued France from defeat in one of the darkest periods of the Hundred Years' War with England. Her first great triumph was to lead a French army against the English who had laid siege to the city of Orléans. She has often been called the Maid of Orléans in honor of that victory.

Joan's mission. Jeanne d'Arc, as she was known in France, was born at Domrémy, near Nancy. She was a strong and healthy child. Like most peasants of her time, she never learned to read and write. She grew up as a devout Catholic under the strong influence of her deeply religious mother. The girl called herself Jeanne la Pucelle (Joan the Maid). Some historians believe that Joan may have been a *clairvoyant*—that is, a person who has knowledge of events happening far away or in the future without using any of the five senses. By the age of about 13, Joan was having religious visions and hearing what she believed were the voices of saints. These voices in time persuaded Joan that God had chosen her to help King Charles VII of France drive the English from French soil. She went to the town of Vaucouleurs to ask the military commander for an escort because she had to see the king. At first, the commander laughed at her. But he finally gave her what she wanted. Early in 1429, at the age of about 17, she left to fulfill her mission.

Joan sees the king. Much of southern France had recognized young King Charles VII as their ruler since 1422. But his enemies, the English and the *Burgundians* (French citizens who supported the English), controlled Paris and the northern part of France. The people there did not accept Charles as their king. Charles had never been crowned, because the city of Reims, where French kings were crowned, lay in enemy territory. In addition, the quarrels of his advisers paralyzed his government, and the treasury was empty. If the English captured Orléans, Charles's position would be desperate. His situation was so hopeless that he was willing to listen to the young girl who had arrived at his castle in Chinon claiming to have heard the voices of saints.

But first, Charles tested Joan. Slipping into the ranks of his courtiers, he let one of his nobles occupy the throne. Joan, however, was not deceived, and quickly identified Charles as her king. Even then, Charles was doubtful. But when she told him exactly what he had asked of God when he prayed alone, he realized she had unusual powers. People at that time often feared such powers were the work of the devil. But members of the clergy accepted Joan's beliefs, so Charles gave her armor, a banner, and the command of troops.

Joan's military career. Joan set out with her army in April 1429 to rescue Orléans from the English. At first, the French commanders hesitated to obey her. However, they soon realized that all went well when they followed her orders. Joan's forces broke the siege of Orléans in only 10 days, and the English fled.

After this victory, she persuaded Charles of the need


Detail of an illuminated manuscript (about the 1400's) by an unknown artist; Archives Nationales, Paris (Josse)

Joan of Arc, a national heroine of France, believed that God had chosen her to free her country from English rule.

for a coronation. To a deeply religious person like Joan, Charles was not a true king until he was crowned in the cathedral at Reims. She led Charles and his military escort through enemy territory, and her troops defeated the English in several battles along the way. Joan entered the city in triumph and stood beside Charles when he was crowned king on July 17, 1429.

After the coronation, Joan became anxious to free Paris from English control. The king doubted her chance of success at this time, but he allowed Joan to make an attempt on Paris. In September 1429, Joan was wounded in a minor battle near Paris. In May 1430, the Burgundians captured her at Compiègne. Although important prisoners could bring high ransoms, the English were determined not to give her up to the French. They acquired her from the Burgundians for a large sum.

Joan's trial and death. The English saw Joan as an agent of the devil. They imprisoned her and tried her on charges of witchcraft and *heresy* (disbelief in the accepted religion). Despite the bullying of her English captors, she continued to insist that her visions and voices had come from God. However, a tribunal of French clergy sympathetic to the English sentenced her to death.

Joan was burned at the stake before a large crowd in Rouen on May 30, 1431. Her courageous death led many to fear that they had witnessed the martyrdom of a saint. Because heretics could not receive a Christian burial, Joan's ashes were thrown into the Seine River.

In 1455, Joan's family asked for a new trial to reconsider the charges against Joan. Pope Callistus III granted a hearing. In 1456, the pope pronounced Joan innocent. Pope Pius X *beatified* her in 1909. Beatification is a preliminary step toward *canonization* (sainthood) in the Roman Catholic Church. Pope Benedict XV declared Joan of Arc a saint in 1920. Her feast day, the day of her death, is May 30.

The memory of Joan of Arc. The works of many authors deal with the life of Joan of Arc. Friedrich Schiller, a German poet and playwright, wrote the drama *The Maid of Orléans* (1801). *Saint Joan* (1923), a famous play by Irish-born playwright and critic George Bernard Shaw, shows Joan as a woman with Protestant beliefs who opposed the authorities of the Roman Catholic Church.

Joan of Arc is admired by patriots, supporters of women's rights, and even people who study the supernatural. She is also memorialized in monuments and works of art throughout the world. Joan remains a mysterious figure, however. Even during the 1400's, some people claimed that another person had died in her place at Rouen. John Bell Henneman

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Job. See Careers.

Job, *johb,* **Book of,** is a book of the Bible. Jewish editions of the Bible place the Book of Job in a series of books called the *Writings.* Christian editions place the book in a group called *Wisdom* books. The Book of Job is named for its central figure, a pious and upright man. The book raises a number of important religious questions. These questions include why righteous people suffer and why evil exists in a world that is governed by an all-powerful God.

The Book of Job consists of a prologue in prose (chapters 1-2), a series of dialogues in verse (3:1-42:6), and a prose epilogue (42:7-17). In the prologue, God allows Satan to test Job's faith by inflicting a series of misfortunes on the man. In the dialogues, Job's friends cannot believe that his misfortunes are undeserved, and they urge him to repent. But Job firmly insists that he is innocent of sin. God then appears to Job in a whirlwind and criticizes Job for daring to question His will. Job finally realizes that he is nothing compared to God. Job accepts God's judgment of him even though he cannot understand it. In the book's epilogue, God restores Job to prosperity.

There have been numerous interpretations of the Book of Job. Many scholars believe that the book teaches that there is no direct relationship between right actions and reward in human history. Humanity can question God's will but never truly understand God's ultimate design.

The present form of the Book of Job dates back to the period from the 600's to the 400's B.C. However, the story may go back as far as 1,000 years earlier.

Eric M. Meyers

See also **Bible** (Books of the Hebrew Bible).

Job Corps is a United States government program that provides job training, education, and other services for disadvantaged young men and women. The basic goal of the program is to teach job skills to people who range in age from 16 to 22 years old.

The Job Corps also offers counseling, health care, job placement, and classroom instruction to finish high school. More than 75 percent of the people who complete the program find a job, return to school, or join the armed forces.

The Job Corps provides its services in residential centers in the United States and Puerto Rico. Most of the young men and women stay at a center for six months of training, but some remain as long as two years. Most of the centers serve people from a particular state or region and design their programs to meet job needs in that locality. At many centers, for example, labor unions offer special apprenticeship programs in such construction trades as bricklaying, carpentry, and the operation of heavy equipment.

The Job Corps was established by the Economic Opportunity Act of 1964. The corps was administered by the Office of Economic Opportunity until 1969, when it was transferred to the Department of Labor.

Critically reviewed by the Department of Labor

Job's Daughters, *johbz,* is an organization for girls associated with the men's fraternal society of Masons. Its official name is the International Order of Job's Daughters. Girls between the ages of 11 and 20 with a relative who has earned at least the degree of Master Mason may become members.

Job's Daughters promotes the desire for knowledge, respect for parents, community spirit, and reverence for the Bible. The organization provides many members with educational loans and college scholarships. It also holds fund-raising events for charitable causes.

Job's Daughters was founded in 1921 in the United

States. It has about 24,000 active members and about 1,200 *bethels* (chapters) in several countries, including Australia, Canada, and the Philippines.

The chief executive officer of Job's Daughters is called the *Supreme Guardian.* The *Supreme Guardian Council* is the central governing committee. Headquarters are in Papillion, Nebraska.

Critically reviewed by the International Order of Job's Daughters

See also Masonry.

Jockey. See Horse racing (Jockeys; History).

Jodl, *YOHD uhl,* **Alfred,** *AHL frayt* (1892?-1946), signed the unconditional surrender of Germany in Reims, France, in 1945. At that time, he was chief of the Operations Staff of the German Armed Forces High Command. He was an admirer of Napoleon I and helped Adolf Hitler imitate him. Jodl worshiped Hitler and became one of his tools. As Hitler's personal military adviser, he failed to try to curb the dictator's evil ambitions. Jodl was executed for war crimes committed during World War II. He was born in Würzburg, in Bavaria. Otis C. Mitchell

Jodrell Bank Observatory, *JOH druhl,* near Manchester, England, is one of the world's leading radio astronomy observatories. The Lovell telescope, the first giant radio telescope, began operating there in 1957. It has a dish-shaped reflector 250 feet (76.2 meters) in diameter that focuses radio waves on an antenna in the center of the reflector.

Today, astronomers at Jodrell Bank study the radio emissions from celestial objects called *pulsars* (see **Pulsar**) and gas and dust in galaxies. With the help of a radio telescope network called *MERLIN* (*m*ulti-*e*lement-*r*adio-*l*inked-*i*nterferometer *n*etwork), astronomers at Jodrell have mapped the structure of different radio sources, including distant galaxies and luminous objects called *quasars* (see **Quasar**).

The official name of the observatory is the Nuffield Radio Astronomy Laboratories, Jodrell Bank. The observatory serves as a research and teaching department of the University of Manchester.

Critically reviewed by Nuffield Radio Astronomy Laboratories, Jodrell Bank

Joel, Book of, is a book of the Bible named for an Israelite prophet. The book is part of a collection called the *Prophets* in both Jewish and Christian editions of the Bible. There are no specific historical references in the book. But scholars believe it dates from about 450 B.C., after the *Babylonian Exile.* The exile was about a 50-year period that followed the Babylonian conquest of the Israelite kingdom of Judah in 587 or 586 B.C.

The Book of Joel is divided into two parts. Part one (chapters 1–2:27) describes a plague of locusts that leaves the land barren. Many scholars believe the account refers to an actual plague, which Joel believed was a warning of God's anger against His sinful people. The prophet calls upon the priests, the elders, and the people to repent their sins and seek God's mercy to end the plague. Part two (chapters 2:28–3:21) concerns Joel's prophecy of the Day of the Lord, or Judgment Day, in which only the faithful will be saved. Israel will be restored to its land, which will be fruitful again. God's anger will pour down on all others, especially the heathens who exiled the Israelites. Eric M. Meyers

See also **Bible** (Books of the Hebrew Bible).

Joey. See Kangaroo (The life of a kangaroo).

Joffre, *ZHAWF ruh,* **Joseph Jacques Césaire,** *zhaw ZEHF zhahk say ZEHR* (1852-1931), commanded the French armies during the early part of World War I (1914-1918). Joffre's reputation grew when he defeated the Germans in the First Battle of the Marne in 1914. He was the first French general to defeat a German army in a major battle since Napoleon Bonaparte did so in the early 1800's. His victory ended Germany's hopes to defeat France quickly.

By 1915, the opposing armies had reached a stalemate on the Western Front. Joffre attempted to break the stalemate with offensives in Artois and Champagne, but they were failures. In 1916, the French government replaced Joffre because it thought he was wasting French strength in exchange for minor gains. Joffre was named marshal of France and given largely ceremonial duties.

Joffre was born in Rivesaltes near Perpignan. He interrupted his engineering studies to serve in the Franco-Prussian War (1870-1871). After a career spent mainly in the French colonies, Joffre was promoted to chief of the general staff in 1911. Douglas Porch

Joffrey, *JAHF free,* **Robert** (1928?-1988), was an American ballet teacher and *choreographer* (creator of dances). Joffrey's own ballets include *Pas de Déesses* (1954), *Gamelan* (1962), and *Astarte* (1967). The company he created also performs ballet classics, such as Léonide Massine's *Le Beau Danube,* Sir Frederick Ashton's *A Wedding Bouquet,* and Kurt Jooss's *The Green Table,* as well as such modern works as Twyla Tharp's *Deuce Coupe.*

Joffrey was born in Seattle on December 24, probably in 1928. His original name was Anver Bey Abdullah Jaffa Khan, but his family, who were Afghan American, changed his name to Robert Joffrey. He taught at the High School of Performing Arts located in New York City from 1950 to 1955. Joffrey formed a school, the American Ballet Center, in 1953 and also taught there. He and the American dancer Gerald Arpino created the Robert Joffrey Ballet in 1956. In 1966, it was named the official ballet company of the New York City Center. The company moved to Chicago in 1995. Joffrey died of AIDS on March 25, 1988. Katy Matheson

See also **Ballet** (Ballet in the United States).

Jogging is a popular form of exercise and recreation in which a person runs at a steady, moderate pace. The actual pace depends on the individual's ability, but it should be one at which the jogger can talk without becoming breathless. Since the mid-1960's, millions of people have started to jog. The popularity of jogging stems from its healthful benefits and its simplicity. The only equipment needed is loose clothing and well-cushioned, flexible shoes that fit properly.

Jogging builds and maintains physical fitness by improving the function of the circulatory and respiratory systems. It strengthens leg muscles and aids in weight control. Jogging also helps relieve mental stress and provides an opportunity to enjoy the outdoors.

To obtain the full benefits of jogging, an individual should develop a program that includes at least three jogs of 2 miles (3.2 kilometers) every week. A beginner should start with short distances and gradually work up to 2 miles or more. At first, brisk walking may be substituted for periods of jogging. Persons more than 35 years old should have a complete medical examination before starting a jogging program. Herb Weber

See also **Running.**

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Jogues, *zhawg,* **Saint Isaac** (1607-1646), was a Jesuit missionary who worked among the Huron Indians in Canada. He was born on Jan. 10, 1607, in Orléans, France, and went to Canada after he was ordained in 1636. The Iroquois Indians captured him in 1642, but he escaped. In 1646, Jogues led a peace delegation to the Iroquois. He returned with a second delegation later the same year, and the Iroquois took him prisoner and killed him. Jogues was *canonized* (made a saint) in 1930.

D. Peter MacLeod

Johannesburg, *joh HAN ihs BURG,* is South Africa's largest city. It is also the most important industrial, financial, and commercial center in Africa south of the Sahara. Johannesburg is the capital of the province of Gauteng in northeastern South Africa. For location, see **South Africa** (political map).

According to 1991 census figures, the city of Johannesburg had 712,507 people, and the metropolitan area population was 1,907,229. In 1994, the city's boundaries were extended to include surrounding areas populated chiefly by poor black Africans. These areas had been administratively separate under South Africa's *apartheid* (racial segregation) policy. The enlarged City of Johannesburg has a population of nearly 3 million.

Johannesburg is home to a stock exchange and an international airport. The city has two universities, an art gallery, several museums, an international convention center, and a well-known medical research institute. Soccer and rugby are popular spectator sports.

Johannesburg was founded in 1886 on the Witwatersrand, the world's richest gold field. Gold mining drew laborers and fortune seekers to the area, and Johannesburg rapidly became southern Africa's largest city.

Peter Sullivan

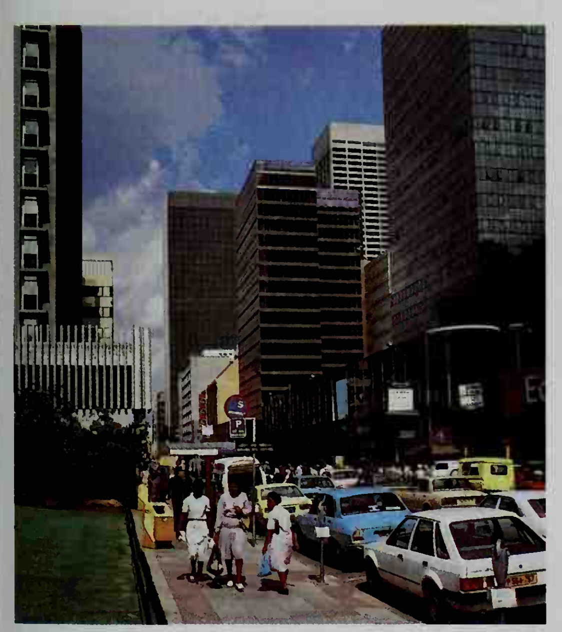
Johanson, Donald Carl (1943-), an American anthropologist, is an authority on human origins. Johanson is also one of the world's most successful fossil hunters. A 1974 expedition led by Johanson at Hadar, Ethiopia, discovered the fossilized remains of what is now commonly regarded as one of the earliest types of humanlike creatures that walked fully upright. The fossils, from a creature nicknamed "Lucy," are between 3 million and 3,600,000 years old. They belong to a species classified as *Australopithecus afarensis* (see **Australopithecus**).

Johanson also has added to knowledge of *Homo habilis,* a species that many anthropologists consider one of the oldest members of the *genus* (group) to which modern human beings belong. In 1986, a team of anthropologists that Johanson led to Olduvai Gorge, Tanzania, discovered the first set of skull and limb bones belonging to a single *Homo habilis* individual. The length of the limb bones indicated *Homo habilis* was more apelike than scientists had previously believed. See **Homo habilis**.

Johanson was born on June 28, 1943, in Chicago. In 1981, he became director of the Institute of Human Origins in Berkeley, California (now in Tempe, Arizona). He is the coauthor of *Lucy: The Beginnings of Mankind* (1981) and *Lucy's Child: The Search for Our Origins* (1989).

Steven M. Borish

John (1167-1216), often called John Lackland, is remembered as one of England's worst kings and as the king who granted Magna Carta, the famous charter of



Travelpix from FPG

A street in Johannesburg, South Africa's largest urban area, is lined with modern buildings. The city's location near valuable gold deposits has made it the nation's industrial center.



Color engraving (1700's); Granger Collection

King John of England granted Magna Carta in 1215. The famous charter marked an important step in the development of constitutional thought and individual liberties in England.

liberties. John was unpredictable and often cruel, but he showed administrative ability. He improved methods of tax collection and financial recordkeeping, and strengthened the courts of law.

John was the youngest son of King Henry II. In 1177, Henry made John Lord of Ireland. In 1199, John succeeded his brother Richard the Lion-Hearted as king of England, and, in France, as Duke of Normandy, Duke of Aquitaine, and Count of Anjou. John's nephew Arthur claimed the right to succeed Richard. John quarreled over his French territories with Arthur and King Philip II of France. Philip declared a war against England that began in 1202. The war was fought off and on throughout the rest of John's reign. John's mismanagement—and rumors he murdered Arthur—angered French barons who had been loyal to John and led to the loss of most English holdings in France.

John disagreed with Pope Innocent III over who should become archbishop of Canterbury. In 1208, the pope placed England under an *interdict,* which banned church services throughout the country. John was excommunicated the next year. His dictatorial behavior stirred discontent among the English barons. John feared his barons would revolt. To avoid this, he settled his argument with the pope in 1213. The pope then supported John, in return for liberties granted the church. But many English barons and some clergy revolted anyway when the king's plans to reconquer the lost territories in France failed. In June 1215, John grudgingly approved the settlement that became known as Magna Carta. It placed the king under English law and checked his power. Emily Zack Tabuteau

See also **Innocent III; Magna Carta; Philip II** (of France); **Richard I.**

John III Sobieski, *saw BYEHS kee* (1629-1696), was king of Poland when the Turkish menace to Christendom was at its height. Heading a Christian alliance, he defeated the Turks at the gates of Vienna in 1683. For this victory, Sobieski was called the "Savior of Vienna and Western European civilization." Sobieski was born in Olesko, Poland (now in Ukraine). He trained for a military career and fought against Cossacks, Tatars, and Turks. He was elected king of Poland in 1674. John J. Kulczycki



New York Public Library Picture Collection
John III Sobieski

John VI (1767-1826), also known as João VI, was king of Portugal from 1816 to 1826. He assumed power in 1792, when his mother became unfit to rule due to mental illness. He became king in 1816, when she died. In 1807, Emperor Napoleon I of France invaded Portugal because the Portuguese had supported Britain in a war between the French and British. John and his family fled to the Portuguese colony of Brazil. In 1815, John made Portugal and Brazil a single kingdom called the United Kingdom of Portugal, Brazil, and the Algarves. He ruled from Brazil until 1821, when he returned to Portugal. See also **Pedro I.** Douglas Porch

John XXII (about 1245-1334) was elected pope in 1316. He was the second pope to spend his reign in Avignon, France, instead of Rome. See **Pope** (The troubles of the papacy).

John had a stormy reign. A conflict with the German emperor Louis IV of Bavaria lasted from 1322 until John's death. Louis had attempted to assert imperial authority in Italy over the church, and John excommunicated him in 1324. John also had a serious dispute with the Franciscan religious order over the issue of Franciscan poverty. A number of Franciscans refused to conform to papal definitions of poverty, seceded from the order, and allied themselves with the emperor.

John was an important administrator and legislator. In 1317, he issued a significant collection of church laws, which dealt with the decrees of the Council of Vienne (1311-1312) and those of Clement V, the preceding pope. John was born in Cahors, France. His given and family name was Jacques Duèse. Kenneth Pennington

John XXIII (about 1370-1419) was an *antipope* during a troubled period in church history called the Great Schism (1378-1417). An antipope is a man determined to have improperly claimed to be or served as pope.

John was elected pope in 1410. At the time of his election, two other men also claimed to be pope. John had been an adventurer and accomplished soldier before his election, and he enjoyed the support of France, England, and several Italian states. Under pressure from the Holy Roman Emperor Sigismund, John agreed to call the Council of Constance (1414-1418) to resolve the rival claims to the papal throne. The council published revolutionary decrees that asserted its authority over the pope and accused John of serious crimes. He was condemned and deposed in 1415. John was born in Naples, Italy. His given and family name was Baldassare Cossa. Kenneth Pennington

See also **Roman Catholic Church** (The Great Schism).

John XXIII (1881-1963) was elected pope in 1958, succeeding Pius XII. Many people thought that John would have a short, uneventful reign because he was nearly 77 years old. But John surprised the Roman Catholic Church and the world early in 1959 by calling an *ecumenical* (general) council. John's place in the church and in history rests on his courage and foresight in calling the Second Vatican Council, which met in 1962. He rarely interfered with the council's activities but reserved the right to approve its final decisions. John died while the council was in session. Pope Paul VI continued the council and approved its decrees after it ended in 1965. See **Vatican Council II.**

John's other notable acts included his order to insert the name of Saint Joseph in the Canon of the Mass. The most important of his eight *encyclicals* (pastoral letters) were *Mater et Magistra* (1961) on social questions of peace and justice, and *Pacem in Terris* (1963) on peace among nations. John also explored the possibility of unity with the Eastern Orthodox Churches.

Another important impact of John's reign came from the personal impression he made on people. He clearly recognized his limitations and displayed a lively sense of humor. His frank kindness earned him the name *good Pope John.*

John was born in Bergamo, Italy. His given and family name was Angelo Giuseppe Roncalli. He was ordained a

priest in 1904 and served in the Italian Army during World War I (1914-1918). Beginning in 1925, he held a series of appointments as diplomatic representative of the Vatican. Pope Pius XII elevated him to cardinal in 1953.

Gerald P. Fogarty

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John, Elton (1947-), is an English pop singer, composer, and pianist who made unusual eyeglasses and flashy costumes his trademarks. His melodic songs, superb piano playing, and showmanship have made John one of the most successful performers of his time.

John was born on March 25, 1947, in Pinner in Middlesex, England. His given name was Reginald Kenneth Dwight. He began his musical career playing piano in an English hotel. In 1967, John started a long collaboration with lyricist Bernie Taupin. The team created many hit songs, including "Candle in the Wind" (1973). John performed an updated version titled "Candle in the Wind 1997" at the funeral of Diana, Princess of Wales, who died in an automobile accident. The recording of the new version became the biggest seller in music history.

John's other hits include "Your Song" (1970), "Rocket Man" and "Crocodile Rock" (both 1972), "Bennie and the Jets" and "Goodbye Yellow Brick Road" (both 1973), "Don't Let the Sun Go Down on Me" (1974), and "Don't Go Breaking My Heart" (duet with Kiki Dee, 1976).

John and lyricist Tim Rice won an Academy Award for best original song for "Can You Feel the Love Tonight" from the animated motion picture *The Lion King* (1994). He also composed the score for the stage musical *Aida* (1999). John was knighted in 1997 by Queen Elizabeth II for his charity work. John and Rice won the 2001 Grammy award for best musical show album for *Aida.*

Don McLeese

John, Epistles of, are the 23rd, 24th, and 25th books of the New Testament. Although the first and longest of them is called an *epistle* (letter), it is really a theological essay. The second and third Epistles are actual letters.

The author of the second and third Epistles calls himself the *presbyter,* or elder. He wrote to a church he calls the "elect lady" and to an individual named Gaius. All three documents come from the circles that produced the Gospel of John. They were probably written in about A.D. 100. The first and second Epistles call for mutual love among Christians and for the recognition that Jesus Christ was truly a human being. The third Epistle discusses problems concerning Christian hospitality.

Terrance D. Callan

John, Saint, was one of the 12 apostles of Jesus Christ. He was the brother of the apostle James. With James, he was one of the first disciples to be called by Jesus. According to Mark 3:17, Jesus called John and James the "sons of thunder," apparently because of their rashness. John is usually associated with Peter and James as one of a select, inner group of disciples. In Galatians 2:6-10, Saint Paul called John a "pillar" of the church. The Acts of the Apostles reports that John was arrested with Peter because of his preaching in Jerusalem.

John is traditionally regarded as the New Testament author of the fourth Gospel, the three Epistles of John, and the Book of Revelation. But many Biblical scholars believe that these works, or some of them, were written by his followers, not by John. John has often been considered the "beloved disciple" mentioned in the fourth Gospel, but scholars are unsure of this reference.

In addition to the Biblical evidence, later tradition records that John preached in Ephesus in Asia Minor until he was very old. He is honored as the patron saint of Asia Minor. His feast day in the Roman Catholic Church is December 27. In the Eastern Orthodox Churches, John's feast day is celebrated on September 26.

Richard A. Edwards

See also John, Epistles of; Revelation, Book of.

John Bull is the name used for England and the English people, just as Uncle Sam stands for the United States and its people. The nickname John Bull was used in the 1600's. But John Arbuthnot, a Scottish writer, fixed the popular idea of John Bull. In 1712, Arbuthnot published pamphlets advocating the end of the War of the Spanish Succession. The pamphlets were republished in 1712 as *The History of John Bull.* In this book, John Bull, representing England, appears as a jolly, honest, plain-dealing, hot-tempered farmer.



Mary Evans Picture Library

"John Bull" is a symbol of the English people.

Sir John Tenniel, famous cartoonist of *Punch* magazine in the 1800's, pictured John Bull as a dignified gentleman. The John Bull usually seen today appeared in the drawings of Sir Francis Carruthers Gould, published in the *Westminster Gazette* in the late 1800's and early 1900's. Gould pictured John Bull wearing a "tile" hat and swallow-tailed coat. His trousers are tucked into riding boots, and the British flag sometimes appears on his waistcoat.

I. J. Sanders

John Chrysostom, Saint. See Chrysostom, Saint John.

John Day Fossil Beds National Monument includes three areas in north-central Oregon that contain fossils of animals and plants that lived from about 55 million to about 10 million years ago. Established in 1974, it is the first national monument in which scientists have found fossils from five prehistoric *epochs* (ages) that followed one another consecutively. For its area, see National Park System (table: National monuments).

John F. Kennedy Center for the Performing Arts. See Kennedy Center for the Performing Arts.

John Henry. See Henry, John.

John Howard Association is a private, nonprofit agency that works for fair and effective correctional programs in the United States. It monitors and investigates prisons and jails and reports on conditions in them. It also works to develop and promote just policies on important correctional issues, such as the treatment of

mentally ill people in prisons. The association's public education program sponsors speakers and publishes a newsletter and special reports. The association was founded in 1901. It was named for John Howard, a British prison reformer of the 1700's. Headquarters are in Chicago. Critically reviewed by the John Howard Association

John of Gaunt, *gawnt* or *gahnt* (1340-1399), Duke of Lancaster, was an English soldier and political leader. Beginning in 1377, he was the power behind the throne during much of the reign of his nephew, King Richard II of England. For nearly 10 years, he fought under Richard in the Hundred Years' War (1337-1453) against France. He also supported the English philosopher John Wycliffe's efforts to reform the English *clergy* (religious leaders).

John was the son of King Edward III of England. He was born in Ghent, Belgium, from which he took his name. He became Duke of Lancaster after the father of his first wife, Blanche of Lancaster, died in 1361. By his marriage in 1372 to Constance, daughter of King Pedro I of Castile (now part of Spain), John claimed the Castilian throne. His son Henry IV was the first English king from the House of Lancaster. After Constance's death, John married Katherine Swynford, his mistress, in 1396.

George B. Stow

John Paul I (1912-1978) was elected pope of the Roman Catholic Church in 1978. His reign from his election on August 26 to his sudden death on September 28 was one of the shortest in papal history. He was the first pope to take two names, combining the names of the two previous popes, John XXIII and Paul VI. John Paul's reign was too brief to make a lasting impact.

John Paul was born in Forno di Canale (now Canale d'Agordo), Italy, near Belluno, of working-class parents. His given and family name was Albino Luciani. He was ordained a priest in 1935. He was named bishop of Vittorio Veneto in 1958 and in 1969 was appointed patriarch of Venice. Pope Paul VI made him a cardinal in 1973.

Gerald P. Fogarty

John Paul II (1920-) was elected pope of the Roman Catholic Church in 1978. John Paul, who was born in Poland, became the first non-Italian pope since Adrian VI, a Dutchman elected pope in 1522.

More than any other pope in history, John Paul made the papacy part of the world scene by traveling to over 60 nations, the majority of them developing nations. He toured the United States several times. The pope used these journeys to show the universal character of the Roman Catholic Church and to personally deliver the message of the Gospel to many peoples. He skillfully used television and other media to convey his vision of faith to the modern world.

In 1984, John Paul negotiated with the Italian government a new *concordat* (agreement) recognizing the separation of church and state. The Italian parliament approved the agreement in 1985. Also in 1984, the pope and President Ronald Reagan of the United States announced the establishment of diplomatic relations and the exchange of ambassadors between the United States and the Vatican. In 1994, the Vatican established full diplomatic relations with the state of Israel.

John Paul has an outgoing personality that has made him enormously popular. He attracted such large crowds to his weekly *audiences* (public appearances) that the audiences had to be moved from St. Peter's Basilica to the square outside. In an appearance there in May 1981, he was shot and seriously wounded. Mehmet Ali Agca, a Turkish terrorist, was convicted of the attack.

John Paul is theologically conservative. He has strongly upheld traditional church teachings and opposed changes such as allowing priests to marry or admitting women to the priesthood. In 1983, he issued a new code of church law. In 1992 he approved a new *catechism,* a detailed statement of Catholic belief.

Many of John Paul's speeches, *encyclicals* (letters to the entire church), and other messages have reflected his progressive social views. Several encyclicals have urged governments to improve the condition of the world's poor and called upon the rich nations to work toward a new world economic order. The pope strongly defends human rights and stresses the solidarity of all human beings as one family created by God. Many people believe he played an influential role in the collapse of Communism in Eastern Europe and the Soviet Union.

John Paul was born in Wadowice, Poland, near Kraków. His given and family name was Karol Jozef Wojtyla. He was ordained a priest in 1946 and taught ethics and philosophy for a number of years at universities in Kraków and Lublin. He also served as chaplain for university students. He became auxiliary bishop of Kraków in 1958, archbishop of Kraków in 1964, and a cardinal in 1967. In 1994, his written responses to interview questions were published as *Crossing the Threshold of Hope.* He reflected on his decision to become a priest in the memoir *Gift and Mystery* (1996). Robert P. Imbelli

See also **Pope** (picture: John Paul II).

Additional resources

Bernstein, Carl, and Politi, Marco. *His Holiness: John Paul II and the Hidden History of Our Time.* 1996. Reprint. Viking Penguin, 1997.

Kwitny, Jonathan. *Man of the Century: The Life and Times of Pope John Paul II.* Henry Holt, 1997.

John the Baptist, Saint (6 B.C.?-A.D. 28), in Christianity, was a prophet regarded as the forerunner of Jesus Christ. In his public ministry, John baptized Jesus, an event seen as the start of Jesus's ministry.

John was the son of Zechariah and Elizabeth, who was a relative of Mary, the mother of Jesus (see **Elizabeth, Saint**). John was probably raised in a Jewish community in the wilderness of Judea. Pious Jews fled to these wilderness communities to escape the sinfulness they saw in their nation. About A.D. 27, John appeared in Judea, proclaiming the coming of God and baptizing people into a new, purified community. John urged people to repent, to turn away from their old lives, and to adopt new lives of piety and obedience to God. All this was in preparation for the coming of one who they believed would baptize them in the Holy Spirit.

Many people were attracted to John and his call for repentance, and a large body of followers grew up around him. Within the larger group, John had a smaller group of disciples whom he instructed in pious living and who observed Jewish religious practices.

The political authorities were suspicious of the crowds John attracted. They feared the possibility of a popular uprising against the Roman rulers of Palestine. John was arrested by Herod Antipas, the governor of Galilee, imprisoned in a fortress, and executed.

As Jesus's ministry emerged, many of His followers


The Baptism of Christ (about 1472), a tempera painting on wood, Uffizi Gallery, Florence (Scala/Art Resource)

John the Baptist's baptism of Jesus was portrayed in this painting by Andrea del Verrocchio and Leonardo da Vinci.

seem to have been drawn from John's followers. After John's death, many more of his followers apparently joined Jesus's movement. But John's followers still made up a movement that continued after his death. Saint Paul found a group of John's followers in the Greek city of Ephesus in the A.D. 50's. M. Robert Mulholland, Jr.

See also **Salome**.

John the Evangelist, Saint. See **John, Saint**.

Johnny Appleseed. See **Appleseed, Johnny**.

Johns, Jasper (1930-), is an American artist famous for his paintings of common objects, such as flags, targets, numbers, and maps. Johns tried to view such objects with a fresh vision. He sought a new content for painting that would not communicate emotion. He challenged his viewers to make distinctions between the real world and art. In addition to painting, Johns is also noted for his sculptures, prints, and drawings.

In his paintings, Johns tested the limits of what painting could accomplish by narrowing the gap between an object and its depiction. Johns restricted his themes to patterns, such as flags and targets, that were already flat, abstract designs. He also chose shapes that fit precisely into the proportions of the canvas. In isolating such objects from their normal setting, Johns called attention to them, and to their function, forms, and meanings. Johns gave his pictures a recognizable subject matter that had been absent from much American painting since the rise of Abstract Expressionism in the late 1940's. In the same spirit, Johns created sculptures depicting such commonplace subject matter as beer cans and light bulbs. His painting *Three Flags* is reproduced in the **Painting** article.

Johns was born in Augusta, Georgia. In 1953, he settled in New York City, where he soon met artist Robert Rauschenberg. The two worked closely together, sharing ideas and criticizing each other's work. Johns had his first solo exhibition in 1958.

In the 1980's, Johns's work took a different direction. He began to paint more personal works about memory, aging, and the life cycle. Michael Plante

See also **Painting** (The revival of subject matter).

Johns Hopkins University is a private coeducational institution based in Baltimore, Maryland. The university consists of nine divisions: (1) the School of Arts and Sciences, (2) the G. W. C. Whiting School of Engineering, (3) the School of Continuing Studies, (4) the School of Medicine, (5) the School of Hygiene and Public Health, (6) the School of Nursing, (7) the Paul H. Nitze School of Advanced International Studies, (8) the Peabody Institute, and (9) the Applied Physics Laboratory.

The School of Arts and Sciences and the G. W. C. Whiting School of Engineering are on the Homewood campus on Baltimore's north side. They offer studies in engineering, natural sciences, social and behavioral sciences, quantitative studies, and the humanities.

The School of Continuing Studies has programs at Homewood, at several other sites in Maryland, and in Washington, D.C. Its programs lead to undergraduate and advanced degrees.

The Schools of Medicine, Hygiene and Public Health, and Nursing are in east Baltimore. They share a campus with the Johns Hopkins Hospital, a separate but closely associated institution. The School of Medicine is known for research, teaching, and patient care. The School of Hygiene and Public Health offers graduate-level education in public health. The School of Nursing has integrated study programs with three Baltimore hospitals. It offers bachelor's, master's, and doctoral programs.

The main campus of the Paul H. Nitze School of Advanced International Studies is in Washington, D.C. It offers graduate study and research in international relations. Founded as an independent graduate school in 1943, it became part of the university in 1950. The school has a campus in Bologna, Italy. A center at Nanjing University in Nanjing, China, opened in 1986.

The Peabody Institute, in Baltimore, is the oldest chartered music school in the United States. It was established in 1857 as the Peabody Conservatory of Music and became affiliated with Hopkins in 1977.

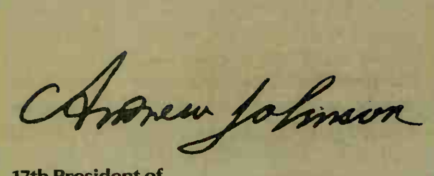
The Applied Physics Laboratory, in Howard County, Maryland, is devoted entirely to research and development. It is noted for contributions to national security, space exploration, and development of medical devices.

Other programs connected with Johns Hopkins University include the Institute for Policy Studies, the Center for Talented Youth, the Center for Social Organization of Schools, and the Johns Hopkins University Press. The university is also the home of the Space Telescope Science Institute. The institute is the science ground station for the Hubble Space Telescope and is funded by the National Aeronautics and Space Administration (NASA).

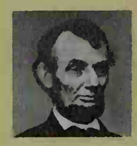
Upon his death in 1873, Baltimore merchant Johns Hopkins left a $7-million gift to found a university and hospital. The university, founded in 1876, was originally in downtown Baltimore. In 1916, the nonmedical divisions moved to the Homewood campus.

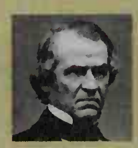
Critically reviewed by Johns Hopkins University

See also **Hopkins, Johns**.



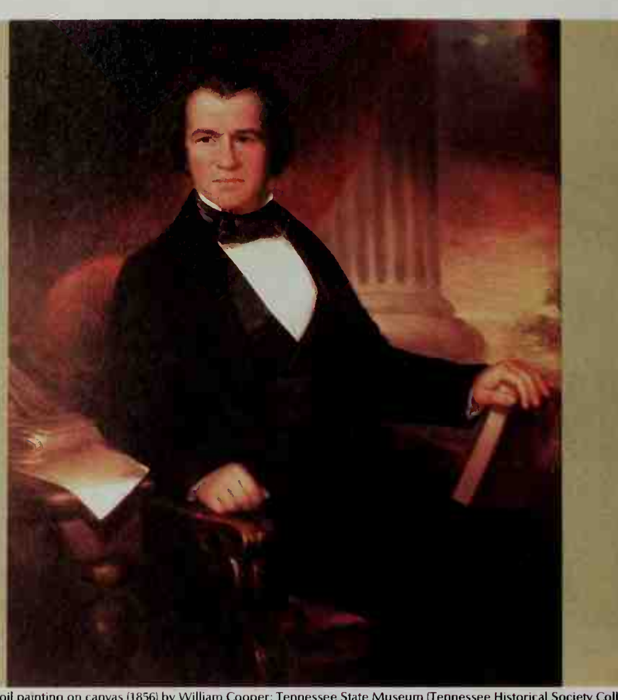
17th President of
the United States 1865-1869







Lincoln	Johnson	Grant
16th President	17th President	18th President
1861-1865	1865-1869	1869-1877
Republican, Union	Union	Republican



Detail of an oil painting on canvas (1856) by William Cooper; Tennessee State Museum (Tennessee Historical Society Collection)

Johnson, Andrew (1808-1875), the first president to be impeached, became chief executive upon the assassination of Abraham Lincoln. The American Civil War had just ended. Johnson, a Democrat from Tennessee, inherited the wartime dispute between Lincoln and Congress over how to treat the South after the war. This disagreement soon intensified, as more and more Republicans in Congress came to oppose Johnson's views. Congress enacted its policies in spite of his repeated vetoes. The division became so wide that the United States House of Representatives voted to impeach him. But the Senate failed by one vote to remove Johnson from office.

Throughout his life, and especially his presidency, Johnson aroused either strong support or fierce dislike. Historians have also been divided in their estimation of him. Some view him as an unfit leader who was too generous to the Southerners after the war. Others have portrayed him as a leader of unusual vision who accurately saw that harsh treatment of the Southern States would increase divisions in the Union. Some scholars believe Johnson's acquittal in the impeachment trial preserved the independence of the presidency.

The stocky Johnson was a typical man of the frontier. A tailor by profession, he lacked formal schooling and educated himself with the help of his wife. She taught him how to write and do arithmetic. Johnson had the touchy pride of a self-made man.

A serious man, Johnson had limited tact and patience. He reserved humor for family and friends. Johnson lacked Lincoln's skill in getting people to work together. But he was honest, brave, and intelligent. An unshakable faith in the Constitution guided his actions during his 20 years as a U.S. representative, a governor, and a U.S. senator. One of his lawyers at the impeachment trial wrote: "He is a man of few ideas, but they are right and true, and he could suffer death sooner than yield up or violate one of them."

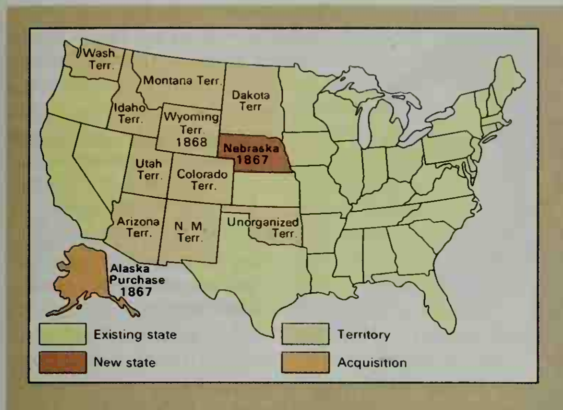
During Johnson's term, the United States purchased Alaska, and Nebraska became a state. Southerners worked to repair their ruined towns and farms, and to reorganize their economy without slavery. Important "firsts" during this time included the first oil pipeline, practical typewriter, and railroad refrigerator car.

Early life

Boyhood. Andrew Johnson was born in Raleigh, North Carolina, on Dec. 29, 1808. His father, Jacob Johnson, worked as a handyman in a tavern. Andrew's mother, Mary McDonough Johnson, was a maid in the tavern. The boy was the younger of two sons. Jacob died when Andrew was only 3 years old. The widow supported her children by sewing and taking in washing.

Tailor's apprentice. Andrew's mother apprenticed him to a tailor when he was 13 years old. The shop foreman probably taught him to read. Tailors usually employed someone to read to the workers as they sat at their tables stitching clothes. Andrew became familiar with the Constitution, American history, and politics through reading newspapers and a few books.

Johnson was supposed to serve as an apprentice for six years. He ran away from home after two years, in part because his youthful pranks were getting him in trouble with the law, and in part because of his independent spirit. Johnson set himself up as a tailor at Carthage, North Carolina, and then at Laurens, South Carolina. He soon moved west into Tennessee to seek a fresh start. Johnson brought his poverty-stricken mother and stepfather to Tennessee in 1826. They settled in Greeneville.



Nebraska became the 37th state of the Union in 1867. That same year, the United States purchased Alaska from Russia. Congress established the Wyoming Territory in 1868.



The United States flag had 35 stars when Johnson took office in 1865, even though the country had 36 states. One star was added in 1865 and another in 1867.

The world of President Johnson

Two amendments to the Constitution were ratified during Johnson's presidency. The 13th Amendment abolished slavery in the United States. The 14th Amendment granted citizenship to all former slaves. It also forbade the states to deny equal rights to any person.
Antiseptic surgical methods were developed in 1865 by the English physician Joseph Lister.
Literature published during Johnson's Administration included *Alice in Wonderland* (1865) by Lewis Carroll of England, "Snow-Bound" (1866) by the American poet John Greenleaf Whittier, and *Little Women* (1868-1869) by Louisa May Alcott, also of the United States.
The first diamond field in South Africa was discovered in a bed of the Vaal River in 1867.
The first successful transatlantic telegraph cable was laid in 1866. The cable extended between Newfoundland and Ireland.
The Dominion of Canada was established in 1867 by the British North America Act.
Austria and Hungary formed the Dual Monarchy of Austria-Hungary in 1867.
"On the Beautiful Blue Danube," which ranks as the most famous waltz composed by Johann Strauss, Jr., was written in 1867.
Dynamite was patented in 1867 by Alfred Nobel, a Swedish chemist. Other inventions of this period included the first practical typewriter, developed in 1867, and the railroad refrigerator car, created in 1868.

WORLD BOOK map

Johnson's family. On May 17, 1827, Johnson married Eliza McCardle (Oct. 4, 1810-Jan. 15, 1876), the daughter of a Scottish shoemaker. She taught him to write and to solve simple problems in arithmetic. She also encouraged him to read and to study. The Johnsons had five children.

With hard work and thrift, Johnson built a profitable tailoring business and bought property in town. He was a devoted father who worried about the health, education, and values of his children. Even when away from home on government service, he wrote them letters of advice. There were family tragedies. One son developed tuberculosis, another was an alcoholic, and a third died when thrown from his horse.

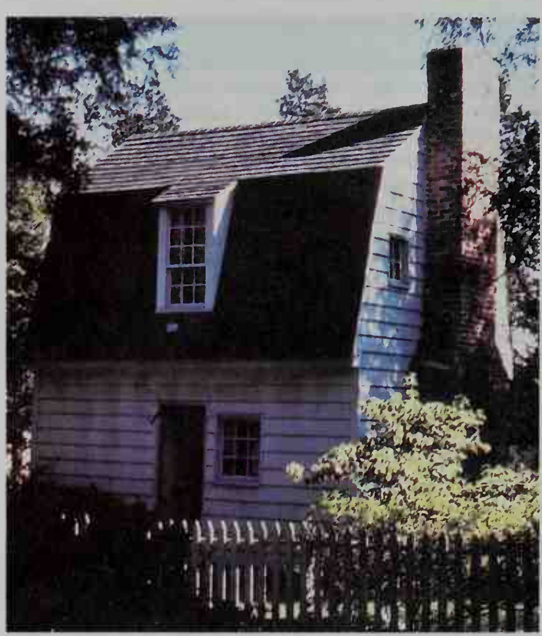
Political and public career

Andrew Jackson, a fellow Tennessean and Democrat, became Johnson's political role model. Both had firm faith in the common people. Johnson was proud of his humble origins. He saw himself as the champion of small white farmers and craftworkers against the great landowners who controlled Tennessee. Soon he attracted a following. Johnson's powerful voice and quick mind helped him sway large crowds.

Local and state offices. In 1829, the year Jackson became President, Johnson won his first election. He became a Greeneville alderman along with a tanner and

Important dates in Johnson's life

1808 (Dec. 29) Born in Raleigh, North Carolina.
1827 (May 17) Married Eliza McCardle.
1843 Elected to the U.S. House of Representatives.
1853 Elected governor of Tennessee.
1857 Elected to the United States Senate.
1862 Appointed military governor of Tennessee.
1864 Elected Vice President of the United States.
1865 (April 15) Succeeded to the presidency.
1868 Acquitted in impeachment trial.
1875 (July 31) Died at Carter Station, Tennessee.



©North Carolina Division of Archives and Records

Johnson was born in this house in Raleigh, North Carolina. When he was 3, his father died. His mother raised the family.





Library of Congress; Culver

Johnson's wife and his oldest daughter shared the duties of hostess at White House functions during his presidency. His wife, Eliza, *far left,* was an invalid for many years. His daughter, Martha Patterson, *left,* often served in place of her mother.

a plasterer. In 1834, Johnson became mayor. In 1835, the voters elected him to the Tennessee House of Representatives. There, he opposed a bill for state assistance in the construction of railroads because he feared dishonesty, monopolies, and wasteful spending. But Johnson represented eastern Tennessee, which needed railroads because of its mountainous isolation. His vote contributed to his defeat for reelection in 1837, the first of only two times in his 45-year political career that he ever lost a popular vote.

Johnson regained his House seat in 1839. In 1841, his district chose him for the state Senate. At that time, Whigs and Democrats had almost equal numbers in the state legislature. Johnson devoted most of his attention to bitter struggles over apportionment and political control of the state.

U.S. representative. In 1843, Johnson won the first of five terms in the U.S. House of Representatives. In the House, he favored limited spending by the federal government and the lowest tariff rate possible. He favored a revision of the Electoral College to permit direct election of the President and a runoff if necessary. He proposed popular election of senators 62 years before it became part of the Constitution. Johnson often complained about lack of presidential leadership and believed that party considerations counted for more than national issues. He supported the annexation of Texas, the acquisition of California and Oregon, and U.S. involvement in the Mexican War (1846-1848).

The issue of slavery became increasingly important during Johnson's years in the House. He owned several slaves, who worked as house servants. But Johnson's votes on slavery questions merely reflected his belief that individuals had a right to own slaves and that states had a right to protect the institution. In 1846, he introduced a homestead bill to help poor white settlers obtain public land. Southerners bitterly opposed the bill, knowing that such settlement would add free states to the Union. Johnson's fight for the bill helped bring him national attention.

Governor. Johnson ran successfully for governor of Tennessee in 1853. As governor, he favored laws to provide free public education. He also fought unsuccessfully the use of prison labor to compete with free labor. His courage and speaking skill were valuable in the rough and tumble politics of the day.

During his successful campaign for reelection in 1855, he ran against candidates of the Whig and Know-Nothing parties (see **Know-Nothings**). The campaign was a bitter one, with rumors that Johnson would be shot at a public meeting. As he faced the large, unfriendly audience, Johnson fingered his pistol and declared: "Fellow citizens, I have been informed that part of the business to be transacted on the present occasion is the assassination of the individual who now has the honor of addressing you. I beg respectfully to propose that this be the first business in order. Therefore if any man has come here tonight for the purpose indicated, I do not say let him speak, but let him shoot." Silence fell. Then Johnson began his speech.

U.S. senator. In 1857, Johnson returned to Washington as a U.S. senator and continued to push for the Homestead Act. It finally passed in 1862, after the Civil War had begun and Southerners had resigned from Congress. See **Homestead Act**.

As the slavery question became more critical, Johnson continued to take a middle course. He opposed the antislavery Republican Party because he believed the Constitution guaranteed the right to own slaves. He supported President Buchanan's proslavery Administration. He also approved the Lecompton Constitution proposed by proslavery settlers in Kansas (see **Kansas** ["Bleeding Kansas"]). At the same time, he made it clear that his devotion to the Union exceeded his devotion to slavery.

Johnson's stand in favor of both the Union and slavery might have made him a logical compromise candidate for President. However, he was not nominated in 1856 because of a split within the Tennessee delegation. In 1860, the Tennessee delegation nominated Johnson for President at the Democratic National Convention. But the convention and the party broke up completely, and he withdrew from the race. In the election, Johnson supported Vice President John C. Breckinridge of Kentucky, the candidate of most Southern Democrats.

Johnson believed until almost the last minute that the South would not *secede* (withdraw) from the Union. In December 1860, he made a powerful speech in the Senate pleading for unity. As for Abraham Lincoln, the Republican candidate who won the 1860 presidential election, Johnson said: "I voted against him; I spoke against him; I spent my money to defeat him; but still I love my country; I love the Constitution; I intend to insist upon its guarantees."

Johnson stood by his principles when the Southern States started to leave the Union. In March 1861, he denounced the secessionists as traitors. This speech aroused furious opposition in the South. Johnson returned to Tennessee in April, just before a special state election to decide if Tennessee would remain in the Union. Angry mobs stopped Johnson's train again and again as he traveled across the state speaking against secession. Eastern Tennessee supported Johnson's position, but the state as a whole voted to secede. The Tennessee militia had orders to arrest Johnson as a traitor, but he escaped. Johnson was the only Southern senator who refused to secede with his state.

Military governor of Tennessee. Union armies gained a foothold in western Tennessee early in 1862. Then Lincoln appointed Johnson military governor of the state, an unusual position designed to give Johnson extensive civil and military authority. His main task was to organize the loyal Unionists, assure their protection, hold free elections, and restore federal authority in the state.

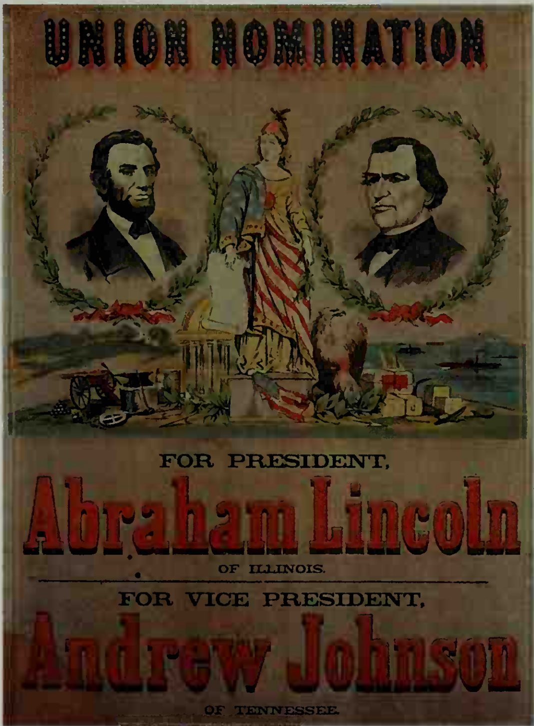
Johnson's policy, a mixture of harsh and mild treatment, required Tennesseans to sign an oath of loyalty in order to vote. His policy also required Tennesseans to accept *emancipation* (freedom) of the slaves. Johnson had a difficult assignment. He had control over very little territory, and only after final liberation of the whole state from Confederate troops in late 1864 could meaningful elections occur.

Vice President. Johnson was ideally suited to run as a vice presidential candidate with Lincoln in 1864. He had strongly supported the Union, he was a Southerner, and he was a leading member of the War Democrats. The War Democrats were Democrats who had been loyal to Lincoln throughout the war.

Before the election, Johnson and other War Democrats joined the Republicans to form the Union Party. The Union Party nominated Lincoln for a second term as President and chose Johnson as its candidate for Vice President. Lincoln and Johnson won by a large majority. See **Lincoln, Abraham** (Election of 1864).

Johnson's inauguration, on March 4, 1865, was a personal disaster. He had recently recovered from an attack of typhoid fever and was still weak. On his way to the ceremony in the Senate, Johnson stopped to rest. He drank some whiskey, thinking it would strengthen him. In the heat of the Senate chamber, and because of his weakened condition, Johnson became tipsy. His jumbled speech embarrassed even his friends. For many years, Johnson's opponents accused him of drunkenness, but the accusation was unjustified. Lincoln remarked: "I have known Andy for many years; he made a bad slip the other day, but you need not be scared. Andy ain't a drunkard."

On April 14, only six weeks after the inauguration, Lincoln was assassinated. The next morning, Johnson took the presidential oath of office in his hotel room.



The New York Historical Society, New York City

An 1864 campaign poster promoted Abraham Lincoln, a Republican, and Johnson, a Democrat, as the presidential and vice-presidential candidates of the Union Party.

Johnson's Administration (1865-1869)

At the beginning of his Administration, Johnson kept Lincoln's Cabinet. The government faced the task of restoring the South to the Union. It had to repair the damage of four years of war and determine the place in society of the newly freed blacks. The assassination of Lincoln made these tasks even more difficult. For the background of the period following the war, called Reconstruction, see **Reconstruction**.

Plans for Reconstruction. Lincoln had not firmly decided the details of a Reconstruction plan at the time of his death. His wartime plan filled a temporary need but was not adequate for a postwar solution. Lincoln would have expected as a minimum assurances of future loyalty, recognition of the end of slavery, and protection for Southern Unionists and blacks. Widely regarded as a moderate, he could favor restricting rebel leaders without desiring punishment.

Most Democrats and many Republicans agreed with Lincoln. But there were many shades of opinion in President Johnson's party, and the so-called Radical Republicans favored more extreme measures. The Radical leaders included Representative Thaddeus Stevens of Pennsylvania and Senators Charles Sumner of Massachusetts and Benjamin Wade of Ohio. Their main goals were to limit the political power of rebel leaders, to protect the former slaves and plan for their social and

economic advancement, and to establish black *suffrage* (voting rights). The Radicals regarded black suffrage as a way to ensure that the Republicans would not become a minority party of the restored Union.

Johnson had often spoken harshly about traitors during the war. Thus, the Radicals thought Johnson would cooperate in their plan for a harsh Reconstruction. But Johnson had also often expressed his belief that the common people of the South had been led into rebellion by the rich and powerful planters. It soon became apparent that he favored generous treatment to all former rebels except military and political leaders.

Congress was not in session when Johnson became President, and so he proceeded with his mild Reconstruction plan. On May 29, 1865, he granted a general *amnesty* (pardon) to rebels who would sign a loyalty oath, except political and military leaders of the Confederacy and those Southerners whose property had a value greater than $20,000. Even they could apply for special pardons, which Johnson granted regularly. He appointed provisional governors and set forth conditions that the reorganized state governments must meet. But these conditions were minimal because Johnson took a limited view of the goals of the war and what the federal government could require afterwards. Significantly, he left decisions about black suffrage to the states. In the summer and fall of 1865, the provisional governors carried out their duties, including arranging for the election of representatives to Congress.

Break with Congress. Many Northerners questioned Johnson's plan, especially after the beginning of 1866. They doubted the fitness of the Southern States for readmission because of reports of violence against blacks and their white supporters, the passing of laws unfair to blacks, and the frequent election of former Confederate leaders. When Congress met in December 1865, it rejected Johnson's plan and would not seat the newly elected Southern congressmen, and some congressmen criticized Johnson's plan.

From February 1866 to March 1867, Congress and the President argued over a number of bills designed to replace Johnson's plan. Congress pushed through, over presidential vetoes, several of these bills. One of them continued the Freedmen's Bureau, which assisted the former slaves. Another, the Civil Rights Act, provided broad federal protection for civil rights. Johnson thought it was wrong to pass such laws when the South was not represented. He believed such subjects were not appropriate concerns of the federal government.

Johnson's Cabinet

Secretary of state	*William H. Seward
Secretary of the treasury	Hugh McCulloch
Secretary of war	*Edwin M. Stanton
	John M. Schofield (1868)
Attorney general	James Speed
	Henry Stanbery (1866)
	*William M. Evarts (1868)
Postmaster general	William Dennison
	Alexander W. Randall (1866)
Secretary of the Navy	*Gideon Welles
Secretary of the interior	John P. Usher
	*James Harlan (1865)
	Orville H. Browning (1866)

*Has a separate biography in *World Book*

In June 1866, Congress passed the 14th Amendment to the Constitution. This amendment defined American citizenship for the first time. It included blacks in that definition. It also laid a basis for far-reaching changes in the relationship of state and federal governments to the individual. In addition, the amendment barred former rebels from holding political office. Johnson strongly objected to the 14th Amendment, though the President has no official function in the constitutional amending process.

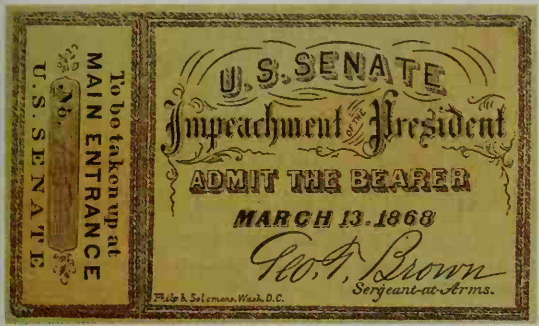
Johnson decided to present his view to the people before the congressional elections of 1866. He traveled through the Eastern and Midwestern states. This trip began well for Johnson, but ended badly. The President lost his temper when hecklers tried to break up his meetings. His remarks sometimes lacked dignity and restraint. Newspapers exaggerated the situation, one reporting the President was "touched with insanity . . . stimulated with drink . . . ." The elections gave the Radicals a majority in Congress.

Increased tension developed after March 2, 1867, when Congress passed two laws that Johnson considered unconstitutional. One law was the First Reconstruction Act, which put the Southern States under military rule and established strict requirements for their readmission to the Union. This act also disfranchised the rebels whom the proposed 14th Amendment prohibited from holding office. It did this by barring these people from voting to elect delegates to new state constitutional conventions and from serving as convention delegates. The other law was the Tenure of Office Act. It required Senate approval before the President could fire members of his Cabinet and other officials who had been confirmed by the Senate. Johnson vetoed both of these acts, but Congress repassed them.

On Aug. 12, 1867, Johnson suspended Secretary of War Edwin M. Stanton, with whom he no longer could work harmoniously. The President appointed General Ulysses S. Grant to Stanton's office. But Grant was unwilling to hold the office when the Senate would not approve Stanton's suspension, and Grant allowed Stanton to reclaim the office in January 1868. The President then formally dismissed Stanton and appointed General Lorenzo Thomas. Stanton locked himself in his office and would not allow Thomas to take over. Stanton continued to serve as secretary of war until after Johnson's impeachment trial.

Impeachment had long been a goal of the Radicals. On Feb. 24, 1868, the House of Representatives voted 126 to 47 to impeach Johnson. On March 2 and March 3, the House adopted 11 articles of impeachment. The most important articles were the first, which charged that the President had violated the Tenure of Office Act by dismissing Stanton, and the 11th, which claimed that he had conspired against Congress and the Constitution. This charge cited Johnson's claim that Congress did not properly represent all the states.

On March 5, 1868, the Senate organized itself as a court to hear the impeachment. Chief Justice Salmon P. Chase presided. Seven representatives, including Thaddeus Stevens, Benjamin Butler, and George Boutwell, led the attack. A team of lawyers, including Benjamin Curtis and William M. Evarts, defended Johnson, who did not appear at the trial.



Library of Congress

An admission ticket for the first day of Johnson's impeachment trial entitled the bearer to watch the proceedings from the Senate gallery. Spectators jammed the gallery during the trial.

The trial began on March 13, 1868. The galleries buzzed with spectators. Some of Johnson's accusers tried to implicate him in Lincoln's murder, but failed. As the trial went on, it became clear that the Radicals had a weak case and were no match for Johnson's skilled lawyers. Johnson's defense team argued that Johnson had not violated the Tenure of Office Act because it was unconstitutional and did not apply to Stanton. They emphasized issues over which honest individuals might differ, including whether the act applied to Stanton. This tactic offered the best opportunity to gain the support of senators whose minds were not already made up. Johnson remained calm and made no public speeches.

Conviction required a two-thirds vote, or 36 votes from the 54 members of the Senate. Acquittal required only 19 votes, and Johnson knew he could count on the 9 Democrats and 3 conservative Republicans. He also needed the support of at least 7 of the 12 "doubtful" Republicans. These senators experienced heavy pressure from the public. One Radical supporter warned Senator William Pitt Fessenden of Maine that any Republican senator who votes against the conviction of Johnson "need never expect to get home alive."

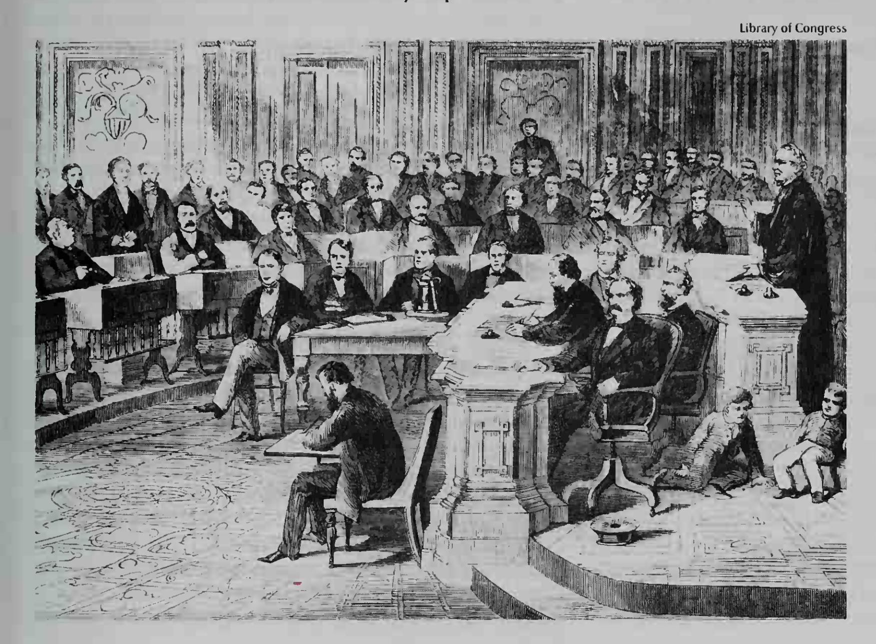
On May 16, the Senate voted on the 11th article. Because it charged a general intent to obstruct the will of Congress, Johnson's opponents believed it had the best chance of passing. Senator James Grimes of Iowa, stricken with paralysis, came in on a stretcher and voted "not guilty." The roll call vote lasted over an hour, and the outcome was in doubt until the very end. The final tally of 35 "guilty" and 19 "not guilty" acquitted Johnson by one vote. Ten days later, following the Republican National Convention, the Senate voted on the second and third articles, with the same result. The Senate took no further votes, and the trial was over. The verdict ensured that something more serious than political opposition to Congress would be necessary to justify removing a President from office.

Foreign relations included two important achievements by Secretary of State William Seward. A French army had overthrown the Mexican government, and Napoleon III named Maximilian of Austria as emperor of Mexico in 1864. In 1865, Seward warned that the U.S. Army would drive out the French by force if necessary. Napoleon recalled his troops in 1867, and Maximilian was overthrown. See **Mexico** (The French invasion).

Seward's second accomplishment was the purchase of Alaska from Russia in 1867. The Russians feared they might lose the colony to Great Britain and offered it to the United States for $7,200,000. Seward finally persuaded enough congressmen to vote for the purchase. For many years, Americans called Alaska "Seward's folly," little dreaming that it would one day be one of the states. See **Alaska** (American purchase).

Life in the White House became livelier during Johnson's Administration than it had been during the gloomy war years. The household included the Johnson's two surviving sons, Robert and Andrew; their daughters, Mrs. Mary Stover and Mrs. Martha Patterson; Mrs. Patterson's husband, Senator D. T. Patterson of Ten-

Library of Congress



The impeachment trial of President Johnson lasted from March 13 to May 26, 1868. The President's supporters and enemies both brought great pressure on the Republican senators who were undecided on whether to convict him. Johnson was acquitted by a single vote.

nessee; and the President's five grandchildren. The children played and had many parties in the White House.

The President's wife had been an invalid for many years and lived in quiet seclusion. But her daughter, Mrs. Patterson, was a charming and dignified hostess.

The final months of Johnson's Administration after the impeachment trial were uneventful. He hoped the Democrats would nominate him for President in 1868. But they chose former Governor Horatio Seymour of New York, who lost to General Ulysses S. Grant.

Johnson's last important official act was a proclamation on Christmas Day in 1868 of a complete pardon for all Southerners who had taken part in the Civil War and were still unpardoned. He also granted pardons in 1869 to three men still in prison for their part in Lincoln's assassination. These actions showed Johnson's desire to end the sectional bitterness dividing the nation.

Later years

After leaving the White House, Johnson remained interested in politics. In 1869, he ran for the U.S. Senate but lost the election by two votes. Assured by friends that bribery would induce two state legislators to change their votes, Johnson indignantly refused. In 1872, Johnson ran for the U.S. House of Representatives as an independent against a Republican and a Democratic ex-Confederate general. For only the second time in his life, Johnson lost a popular election. But he won election to the U.S. Senate in 1875, and thus became the only former President to serve as a senator.

Johnson attended a short special session in March 1875, along with 13 of the 35 senators who voted for his conviction in 1868. Many fellow senators greeted his entrance with applause, and bouquets of flowers decorated his desk.

During a visit to Tennessee, Johnson suffered a paralytic stroke. He died a few days later, on July 31, 1875. Johnson was buried in Greeneville, wrapped in a U.S. flag and with his well-worn copy of the Constitution under his head. James E. Sefton

Related articles in *World Book* include:

Impeachment
Lincoln, Abraham
President of the United States
Reconstruction (The impeachment of Johnson)
Vice President of the United States

Outline

I. **Early life**
  A. Boyhood
  B. Tailor's apprentice
  C. Johnson's family
II. **Political and public career**
  A. Local and state offices
  B. U.S. representative
  C. Governor
  D. U.S. senator
  E. Military governor of Tennessee
  F. Vice President
III. **Johnson's Administration (1865-1869)**
  A. Plans for Reconstruction
  B. Break with Congress
  C. Increased tension
  D. Impeachment
  E. The trial
  F. Foreign relations
  G. Life in the White House
  H. The final months
IV. **Later years**

Questions

Why did Johnson run away from home when he was a boy?
Why did Tennessee's militia have orders to arrest Johnson?
What incident during Johnson's term as governor showed his courage?
Why was Johnson's election to the U.S. Senate in 1875 unique?
Why did the Radical Republicans impeach Johnson?
Why was Johnson nominated for Vice President?
How did Johnson develop his speaking skills?
How did Johnson annoy landowners in Tennessee?
What were some of the issues Johnson was concerned with as a U.S. representative?
What was Johnson's last important official act as President?

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Sefton, James E. *Andrew Johnson and the Uses of Constitutional Power.* Little, Brown, 1980.
Trefousse, Hans L. *Andrew Johnson.* 1989. Reprint. Norton, 1997. *Impeachment of a President.* 1975. Reprint. Fordham Univ. Pr., 1999.

Johnson, Charles Spurgeon (1893-1956), was an American sociologist and educator who studied and wrote about the life of blacks in the United States. His books are considered important contributions to social research. Johnson became the first black president of Fisk University, serving from 1947 to 1956.

Johnson was born in Bristol, Virginia. He graduated from Virginia Union University and from the University of Chicago. Johnson was director of research for the National Urban League from 1921 to 1928. Johnson founded *Opportunity,* the league's journal, in 1923, and edited it until 1928. The journal featured works by young black artists, musicians, and writers. Johnson was professor of sociology at Fisk University from 1928 to 1947. His books include *The Negro in Chicago* (1922), *Shadow of the Plantation* (1934), and *Patterns of Negro Segregation* (1943). Edgar Allan Toppin

Johnson, Earvin. See Johnson, Magic.

Johnson, Herschel Vespasian (1812-1880), was the Northern Democratic candidate for vice president of the United States in 1860. That year, the Northern and Southern Democrats split and ran separate sets of candidates. He and presidential candidate Stephen A. Douglas lost to Republicans Abraham Lincoln and Hannibal Hamlin. Johnson served as a U.S. senator from Georgia in 1848 and 1849, filling a vacancy. He was governor of Georgia from 1853 to 1857.

Johnson served in the Confederate Senate during the American Civil War (1861-1865). He was elected to the United States Senate in 1866 but was not permitted to serve. Johnson was born in Burke County, Georgia. Michael F. Holt

Johnson, Hiram Warren (1866-1945), was governor of California from 1911 to 1917 and a United States senator from 1917 to 1945. Elected governor as a Republican, Johnson helped pass a series of progressive reforms. He was the Progressive Party's nominee for vice president of the United States in 1912. As a senator, he was an *isolationist* (one who resisted involvement in international affairs) and opposed U.S. membership in the League of Nations and the United Nations. In the 1930's, he favored many early programs of the New Deal, President Franklin D. Roosevelt's domestic economic policy. But he broke with Roosevelt over foreign policy.

Johnson was born in Sacramento, California. He attended the University of California. Robert W. Cherny

Johnson, Hugh Samuel (1882-1942), was an American government administrator and soldier. During World War I (1914-1918), he headed the selective service system. He became a brigadier general in 1918. During the war, Johnson also worked for the United States Army General Staff and served on the War Industries Board. From 1919 to 1933, he worked in business. In 1933 and 1934, Johnson directed the National Recovery Administration.

Johnson was born in Fort Scott, Kansas, and graduated from the U.S. Military Academy in 1903. He served with U.S. Army forces in Mexico in 1916. James S. Olson

Johnson, Jack (1878-1946), an American boxer, was the first black to win the world heavyweight championship. He defeated Tommy Burns for the title in 1908.

Many whites resented Johnson's winning the championship. "Great White Hope" tournaments were conducted to find a white boxer who could challenge Johnson. One such boxer was former heavyweight champion James J. Jeffries, who came out of retirement to fight Johnson in 1910. Johnson's defeat of Jeffries resulted in racial violence in many United States cities.

In 1913, Johnson was found guilty of violating the Mann Act, a law that banned the transporting of women across state lines for immoral purposes. Many scholars believe Johnson was unjustly accused and convicted of this violation. Johnson appealed his conviction. Before a ruling on his appeal, Johnson fled the United States. He first went to Canada and then to Europe, Mexico, and South America. In 1915, Johnson lost his title to Jess Willard in Havana, Cuba. Johnson returned to the United States in 1920 and served 10 months in jail for his 1913 conviction. He fought the last of his 112 professional bouts in 1928. After 1928, Johnson was primarily a lecturer and show-business performer.

John Arthur Johnson was born in Galveston, Texas. He began boxing professionally in 1897.

Bert Randolph Sugar

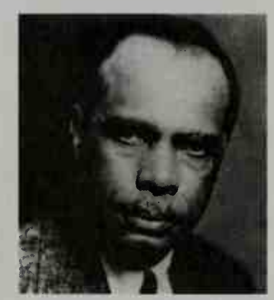
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Jakoubek, Robert E. *Jack Johnson.* Chelsea Hse., 1990. Younger readers.
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Johnson, James P. (1894-1955), was an American pianist and composer. Johnson made important contributions to ragtime, jazz, and popular music. He was part of a group of ragtime pianists on the East Coast who created a solo jazz piano style called *stride.* See **Jazz** (The 1920's).

James Price Johnson was born in New Brunswick, New Jersey. As a youth, he studied classical piano, but he was also exposed to blues, ragtime, and show music. He began to play professionally at age 18. In 1918, he recorded his most influential composition, "Carolina Shout." This marked the beginning of a successful recording career that included his songs "The Harlem Strut" (1921), "Keep Off the Grass" (1921), "You've Got to be Modernistic" (1929), and "Jingles" (1930). His long-running Broadway musical *Runnin' Wild* (1923) produced the hit songs "The Charleston" and "Old Fashioned Love." Johnson also wrote several classically influenced works, including *Harlem Symphony* (completed 1932); *Jassamine* (copyrighted 1934), a piano concerto; and, with American author Langston Hughes, a one-act blues opera called *The Organizer* (1940). Frank Tirro

Johnson, James Weldon (1871-1938), was an African American author. Johnson wrote the lyrics for the song "Lift Every Voice and Sing" (1900), sometimes called the Negro national anthem. His best-known book is *The Autobiography of an Ex-Colored Man* (1912). The novel tells of an attempt to escape racial discrimination against black Americans and provides an understanding of cultural attitudes of black Americans in the early 1900's. Johnson's other works include *God's Trombones* (1927), poems imitating black sermons, and *Black Manhattan* (1930), a cultural history of black life in New York City.



Johnson Publishing Co.
James Weldon Johnson

Johnson was born in Jacksonville, Florida. In his hometown, he was a school principal, a newspaper editor, and a lawyer. When he was nearly 30, he moved to New York City. There, he wrote songs for musicals and vaudeville with his brother, Rosamond.

Johnson was United States consul to Venezuela and to Nicaragua from 1906 to 1913. From 1916 to 1920, Johnson was field secretary for the National Association for the Advancement of Colored People (NAACP). He served as its first black executive secretary from 1920 to 1930. Johnson's writings include an autobiography, *Along This Way* (1933). William L. Andrews

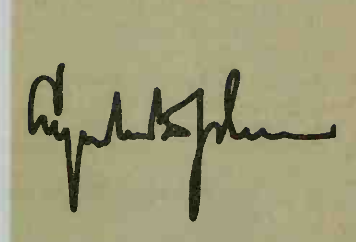
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Johnson, John Harold (1918-), is one of the leading publishers in the United States. He publishes books and magazines directed mainly to black readers. The magazines include *Ebony,* a monthly picture and news magazine; *Ebony Jr.!,* a monthly children's magazine; and *Jet,* a weekly news magazine. Johnson began his publishing career in 1942 when he founded the Johnson Publishing Co. in Chicago and started *Negro Digest,* a literary magazine. He started *Ebony* in 1945. His firm has published books since 1962. Johnson is also an insurance and banking executive.

Johnson represented the United States on trips to Africa, Poland, and the Soviet Union. In 1951, he was named one of the year's 10 outstanding young men by the U.S. Junior Chamber of Commerce (now Jaycees). He was the first black businessman to win the honor. He won the Spingarn Medal in 1966. Johnson was born in Arkansas City, Arkansas, and attended the University of Chicago and Northwestern University. In 1989, he published his autobiography, *Succeeding Against the Odds.*

Edgar Allan Toppin



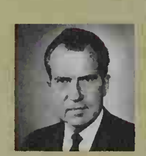
36th President of the United States 1963-1969



Kennedy
35th President
1961-1963
Democrat



Johnson
36th President
1963-1969
Democrat



Nixon
37th President
1969-1974
Republican





Hubert H. Humphrey
Vice President
1965-1969

Johnson, Lyndon Baines (1908-1973), like three other Vice Presidents in United States history, became chief executive upon the assassination of the President. He became President on Nov. 22, 1963, following the fatal shooting of President John F. Kennedy in a street in Dallas, Tex. A stunned nation rallied behind the energetic and ambitious new President, a product of the Texas hill country.

In 1964, Johnson, a Democrat, was elected to a full term as President. He and Senator Hubert H. Humphrey of Minnesota defeated the Republican ticket of Senator Barry M. Goldwater of Arizona and Representative William E. Miller of New York. They received more than 61 per cent of the votes cast—the largest percentage in U.S. history. Johnson chose not to run for reelection in 1968.

Lyndon Baines Johnson had served in Congress for almost 24 years before he was elected Vice President in 1960. In 1937, at the age of 29, he won election to the U.S. House of Representatives. He was elected to the U.S. Senate in 1948. Five years later, at the age of 44, he was made Senate Democratic leader—the youngest person ever elected to lead either party in the Senate.

Johnson led the Democratic-controlled Senate during the Administration of Republican President Dwight D. Eisenhower. Johnson was powerful and shrewdly mixed the demands of party politics with a sense of cooperation between Democrats and Republicans. He frequently brought about agreement through clever planning and persuasion, which came to be known as the "LBJ treatment." In his own words, he became known as a "can-do" Senate leader. As President, his image as a master politician caused many people to mistrust him.

After Kennedy's assassination, Johnson moved with poise and confidence to hold a shocked nation together. He turned his attention to the urgent domestic problems facing the country. He was highly successful in getting Congress to approve many of the social programs Kennedy had proposed, as well as many of his own proposals. The words *Great Society* became the slogan of the Johnson domestic program.

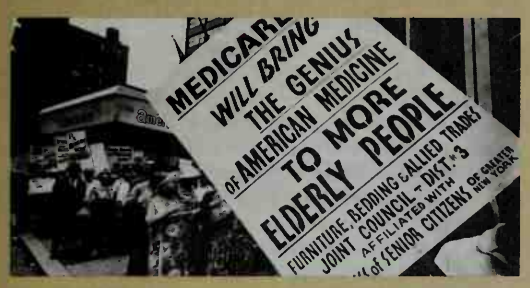
Johnson's skill in congressional politics was not enough, however, to overcome the problems raised by the Vietnam War. His failure to explain the deepening U.S. involvement in the war cost him much support and

Philip Reed Rulon, the contributor of this article, is Professor of History at Northern Arizona University and author of Compassionate Samaritan: The life of Lyndon Baines Johnson.

Important dates in Johnson's life

1908 (Aug. 27) Born near Stonewall, Tex.
1930 Graduated from Southwest Texas State Teachers College (now Southwest Texas State University).
1931 Went to Washington, D.C., as a congressional secretary.
1934 (Nov. 17) Married Claudia Alta (Lady Bird) Taylor.
1935 Became National Youth administrator for Texas.
1937 Elected to the U.S. House of Representatives.
1941-1942 Served in the U.S. Navy during World War II.
1948 Elected to the U.S. Senate.
1955 Became Senate majority leader.
1960 Elected Vice President of the United States.
1963 (Nov. 22) Sworn in as President of the United States in Dallas after the assassination of President John F. Kennedy.
1964 Elected to a full term as President.
1968 Announced that he would not run for reelection.
1973 (Jan. 22) Died of a heart attack suffered at his ranch in Johnson City, Texas.


U.S. combat troops entered the Vietnam War.



The elderly demonstrated support for Medicare.

The world of President Johnson

The Civil Rights Act of 1964, one of the nation's strongest civil rights laws, prohibited discrimination because of color, race, national origin, religion, or sex.
The Beatles, a British rock music group, toured the United States in 1964, creating a sensation everywhere they went.
Medicare, a federal health insurance program for the elderly, was established by Congress in 1965.
Riots erupted in the black ghettos of many U.S. cities. The most destructive riots included those in the Watts section of Los Angeles in 1965 and in Detroit in 1967.
The Second Vatican Council, a meeting of Roman Catholic Church leaders, ended in 1965. It issued a series of proclamations to modernize and revitalize the church.
The Vietnam War expanded. American combat troops entered the war in 1965, and United States planes started to bomb North Vietnam. Many Americans opposed the new U.S. role, and antiwar protests began to break out.
The Women's Liberation Movement gained strength. The National Organization for Women (NOW), founded in 1966, and other groups fought to end discrimination against women.
The Six-Day War between Israel and three Arab nations—Egypt, Jordan, and Syria—broke out on June 5, 1967, and ended on June 10. Israel gained control of Jerusalem and the surrounding area, the Gaza Strip, the Golan Heights, and the Sinai Peninsula.
Assassinations in 1968 took the lives of civil rights leader Martin Luther King, Jr., and Senator Robert F. Kennedy of New York.

AP/Wide World; United Press Int.

led to a national debate that proved disastrous to his political position. With over half a million U.S. troops in Vietnam in what appeared to be an endless struggle, disagreement at home increased.

Johnson surprised the nation and the world on March 31, 1968, by giving up politics and removing himself as a candidate for a second full term. In a dramatic televised speech, he recognized that he had become the symbol of the unpopular war, as well as other divisions in the country. Johnson said he hoped his withdrawal from the presidential race would help solve these problems.

Although Johnson's presidency ended in frustration and division, he left a vivid imprint on the nation. He became widely known by his initials, *LBJ*. His wife, called Lady Bird, and their two daughters, Lynda Bird and Luci Baines, had the same initials. His Texas ranch bore the LBJ brand, and two family dogs were called Little Beagle Johnson and Little Beagle Junior.

Early life

Boyhood. Lyndon Baines Johnson was born on Aug. 27, 1908, in a farmhouse near the central Texas town of Stonewall. He was the eldest of the five children of Samuel Ealy Johnson, Jr., a farmer and schoolteacher who served five terms in the Texas House of Representatives. His mother, Rebekah Baines Johnson, also had been a schoolteacher. On the day Lyndon was born, his grandfather, Samuel Ealy Johnson, Sr., declared: "He'll be a United States senator some day."

Lyndon had one brother, Sam Houston Johnson (1914-1978). He also had three sisters—Rebekah (1910-1978), Josefa (1912-1961), and Lucia (1916-).

Lyndon was an active, healthy child. He liked to hear his mother tell stories from the Bible and from history and mythology. His mother taught him the alphabet before he was 2 years old. He could read at the age of 4.

When Lyndon was 5, his family moved to nearby Johnson City, a town founded by his grandfather. Lyndon attended public school in Johnson City, but he did not like to study. His mother made him do his lessons, however, and he usually made good grades. At the Johnson City high school, he and a friend won a countywide debating competition. A popular boy, Lyndon was president of his class of seven students. In 1924, at 15, he graduated from high school.

Lyndon's parents wanted him to go to college, but the boy wanted no more studying. He and five friends went to California, camping along the way. They soon ran out of money and separated to find work. Lyndon picked grapes for a short time, then worked as a clerk for his cousin Tom Martin, a lawyer. In the fall of 1925, he rode back to Johnson City with his Uncle Clarence, Tom's fa-


Lyndon Baines Johnson Library

Johnson's birthplace, a small frame house near Stonewall, Texas, was torn down in 1935. A replica of the house, shown here, was built on the original foundation in 1966.

ther. There, he found work on a roadbuilding gang.

Lyndon's parents kept urging him to go to college. Once, after an especially hard day's work, he told them: "I'm sick of working just with my hands. I don't know if I can work with my brain, but I'm ready to try."

College student. In February 1927, Johnson entered Southwest Texas State Teachers College (now Southwest Texas State University) in San Marcos. He borrowed $75 from the Johnson City bank to get himself started at college. To pay his expenses, he worked as a janitor. Johnson developed an interest in campus politics, and became the star debater among the students. He often practiced making speeches while sweeping the college halls. He also took a second job as secretary to the college president.

Johnson's first success in politics came at college. He organized a campus political group called the White Stars. This group took control of campus politics from the Black Stars, an organization dominated by athletes. Johnson also edited the college newspaper and became a leader in other campus activities. He earned excellent grades and made many lasting friendships.

Johnson had to leave college because he ran out of money. He taught school for a year in Cotulla, a small town in south Texas. Then, after saving money from his teaching job, he returned to college. In spite of the year he missed, he was able to finish college in 1930.

After graduation, Johnson taught public speaking and debate in Sam Houston High School in Houston. The debating teams he coached won honors in state contests.

Early political career

Entry into politics. Johnson entered politics in 1931. That year, Richard M. Kleberg, a Democrat and an owner of the famous King Ranch, ran for the U.S. House of Representatives. Johnson campaigned for Kleberg. The young teacher made speeches and talked to many voters. Kleberg won the special election of November, 1931, and took the 23-year-old Johnson along to Washington as his secretary.



The White House

As a small-town schoolteacher in Cotulla, Texas, in 1928-1929, Johnson saved money to complete his college education. He then taught at the Sam Houston High School in Houston.

From the start, Johnson impressed the other congressional secretaries. One of them recalled: "Within a few months, he knew how to operate in Washington better than some who had been here for 20 years before him."

Marriage. As a congressional secretary, Johnson often visited Texas. On Sept. 12, 1934, at a hearing of the Texas Railroad Commission in Austin, he met Claudia Alta Taylor (born Dec. 22, 1912). Taylor was the daughter of a wealthy family of Karnack, Texas. She had been called "Lady Bird" ever since the age of 2. A nurse gave her the nickname, saying the little girl was "as pretty as a lady bird."

Johnson asked Taylor for a date immediately after meeting her, but she could not accept. After Johnson returned to Washington, he began to make long-distance telephone calls to her. He also sent her many letters and telegrams. Two months later when he went to Texas again, Johnson proposed to her and she accepted. "Sometimes Lyndon simply takes your breath away," she said later.

The Johnsons were married on Nov. 17, 1934, and took a honeymoon trip to Mexico. They had two daughters, Lynda Bird (1944-) and Luci Baines (1947-).

Youth administrator. In August 1935, President Franklin D. Roosevelt appointed the 26-year-old Johnson as Texas state administrator of the National Youth Administration (NYA). Johnson, the youngest NYA state administrator, put about 12,000 youths to work in such projects as playgrounds, roadside parks, and soil conservation. His organization also helped about 18,000 young Americans go through high school or college.

U.S. representative

Election to the House. Johnson quit his NYA post in 1937 to run for Congress. He ran in a special election to fill the seat of James P. Buchanan of the 10th Congressional District of Texas, who had died. Johnson had nine opponents, many of whom were better known and had more money for campaigning. They were backed by conservatives critical of President Roosevelt's New Deal program (see **New Deal**). Johnson supported Roosevelt's program, including the President's proposal to reorganize the Supreme Court. Johnson's opponents charged Roosevelt was trying to "pack" the court with justices who would always favor the New Deal, and they attacked Johnson for favoring the plan. Their speeches gave Johnson valuable publicity.

Two days before the election, Johnson entered an Austin hospital for an emergency operation to have his appendix removed. He was lying in his hospital bed when the election returns came in on the night of April 10, 1937. He had won election to the House of Representatives with almost twice as many votes as his nearest opponent.

When Johnson left the hospital, President Roosevelt was on a fishing cruise in the Gulf of Mexico off the coast of Texas. The President let it be known that he wanted to see the new congressman. Johnson went

aboard the presidential yacht at Galveston, then rode through Texas with Roosevelt on the President's special train. President Roosevelt and the young congressman developed a warm, lasting friendship.

Johnson was sworn in as a U.S. Representative on May 14, 1937. He successfully sponsored many federal projects for his home district. One was a program that provided cheap electricity for farmers under the new Rural Electrification Administration (REA). Johnson also sponsored projects that gave his Texas district soil conservation, public housing, lower railroad freight rates, and expanded credit for loans to farmers. Years later, a friend recalled: "Lyndon was a real pusher. . . . He didn't develop his smoothness until later, but he did get things done." In 1938, Johnson was elected with no opposition to his first full term in the House.

World War II began in September 1939. As a member of the House Naval Affairs Committee, Johnson helped plan a huge naval air training base at Corpus Christi, Tex. He also helped establish shipbuilding sites at Houston and Orange, Tex.; a Naval Reserve Officers Training Corps at the University of Texas; and a Naval Reserve station in Dallas.

In 1940, Johnson won reelection to the House. Again no one opposed him. During the 1940 election campaign he served as head of the Democratic Congressional Campaign Committee. The next year, Johnson announced his candidacy for the unexpired term of U.S. Senator Morris Sheppard of Texas, who had died in April 1941. Johnson lost the election to Governor W. Lee O'Daniel, a New Deal foe, by only 1,311 votes. He finished his term in the House.

On Dec. 7, 1941, the Japanese bombed the Pearl Harbor Naval Base in Hawaii. An hour after the United States declared war, Johnson, who had been a member of the Naval Reserve for several years, asked to be called up for active duty. Three days later, Johnson was sworn in as a lieutenant commander, the first congressman to go into uniform.

As a special representative of President Roosevelt, Johnson went to New Zealand and traveled through the Pacific area of operations. He spent several months in Australia with General Douglas MacArthur. After a mission aboard a bomber that was attacked by Japanese fighter planes, MacArthur personally awarded Johnson the Silver Star for gallantry.

In the spring of 1942, while Johnson was overseas, his supporters entered him as a candidate for reelection to the House. He won without opposition. In July 1942, Roosevelt ordered all members of Congress in the armed forces to return to Washington.

U.S. senator

Election to the Senate. In May 1948, Johnson became a candidate for the U.S. Senate. He was opposed in the primary election by 10 men, including Coke Stevenson, a popular former governor. Stevenson received 477,077 votes to Johnson's 405,617. However, a runoff election between the two candidates was necessary because Stevenson did not get a majority of the total votes cast. Johnson won the runoff election by only 87 votes.

Johnson took his Senate seat in January 1949. He was appointed to the Senate Armed Services Committee, and became increasingly concerned with the country's military preparedness in the Cold War with the Soviet Union. After the Korean War began in 1950, he called for more troops and for improved weapons.



AP/Wide World

Johnson and his wife, Lady Bird, honeymooned in Mexico City after their marriage in 1934. Lady Bird, whose maiden name was Claudia Taylor, came from a wealthy Texas family.

In 1951, the Democratic senators elected Johnson as their *whip* (assistant leader). His chief job was to see that party members were present when a bill came up for a vote. While serving as whip, Johnson increased his ability to persuade people to reach agreement. Democrats noticed a new spirit of party unity.

Minority leader. Johnson supported Governor Adlai E. Stevenson of Illinois against General Dwight D. Eisenhower in the 1952 presidential campaign. During one three-day period, Johnson made more than 20 campaign speeches for Stevenson. Eisenhower, a Republican, won the election, and the Democrats lost their majority control of the Senate. In January 1953, Senate Democrats unanimously elected Johnson minority leader. At the age of 44, he was the youngest man either party had ever chosen Senate leader.

Johnson came up for reelection in 1954. He won the Democratic primary by a margin of nearly three to one over his closest opponent. In the election campaign, Johnson worked hard for Democratic candidates in many states. The party won control of both houses of Congress, and Johnson was reelected to the Senate.

Majority leader. Johnson became majority leader of the Senate in January 1955. In this post, he had the responsibility of keeping the legislative process running smoothly. He also decided when various bills would be taken up and who would sponsor the bills.

Skilled in the techniques of give and take, Johnson paved the way for bills before they reached the Senate floor for voting. He checked the views of each Democratic Senator on controversial measures. Johnson delayed Senate voting until he had done everything he could to persuade Senators to vote his way.



AP/Wide World

As Senate majority leader during the 1950's, Johnson, *center,* helped plan the Democratic Party's legislative strategy and persuade Democratic senators to support it.

In July 1955, Johnson had a heart attack. He spent five weeks in the National Naval Medical Center in Bethesda, Md., then went to his Johnson City ranch to recuperate. He gave up cigarettes and went on a diet. After he had recovered, he returned to Washington and resumed his post as Senate majority leader.

A strong supporter of the exploration of outer space, Johnson helped establish the Senate Aeronautical and Space Committee, and made himself its first chairman. He also sponsored the law that established the National Aeronautics and Space Administration (NASA).

In 1957, Johnson put through the Senate the first civil rights bill in more than 80 years. Three years later, in 1960, he beat down a Southern filibuster, and the Senate passed another civil rights measure.

Vice President

Johnson announced his candidacy for the Democratic presidential nomination a week before the party's 1960 national convention. But on the first ballot at the convention, Senator John F. Kennedy of Massachusetts received 806 votes to Johnson's 409. Only 761 votes were required, so Kennedy was nominated. Johnson accepted Kennedy's invitation to run as Vice President.

Kennedy's choice of Johnson as his running mate was intended to attract Southern votes. Kennedy was a liberal Bostonian and a Roman Catholic. Johnson was more conservative, a Southerner, and a member of the Disciples of Christ. In the November election, Kennedy and Johnson narrowly defeated the Republican team of Vice President Richard M. Nixon and Henry Cabot Lodge, Jr., of Massachusetts. Johnson was reelected to a third term in the Senate in the same election.

In January 1961, Johnson resigned from the Senate and was sworn in as Vice President. He took a more active role in the government than had any previous Vice President. He served as chairman of the National Aeronautics and Space Council, the Peace Corps National Advisory Council, and the President's Committee on Equal Employment Opportunity. Johnson also served on the National Security Council.

President, 1963-1964

Assassination of President Kennedy. On Nov. 22, 1963, President Kennedy was assassinated while riding in an open automobile through Dallas, Tex. Governor John B. Connally of Texas, riding in the car with Kennedy, was wounded. Johnson was riding two cars behind the President. After the assassin fired his first shot, a Secret Service agent guarding Johnson shoved him to the floor of the automobile and lay over him.

An hour and 39 minutes after Kennedy died, Johnson was sworn in as the 36th President of the United States. The ceremony took place at 2:39 p.m. aboard the presidential Air Force jet at Love Field in Dallas. At Johnson's request, the oath of office was administered by an old friend, U.S. District Court Judge Sarah T. Hughes of Dallas. Three minutes after the ceremony, Johnson gave his first order as President: "Now let's get airborne." Upon arriving in Washington that night, Johnson told the American people: "I will do my best. That is all I can do. I ask for your help—and God's."

Problems as President. Johnson faced many grave problems as chief executive. The Cold War with the Soviet Union and other Communist countries kept the world in danger of a nuclear war. In Vietnam, Communist rebels fought troops supported by the United States. Racial tension and a high unemployment rate were the main problems that plagued the United States.

Major parts of the Administration's program were bogged down in Congress. The railroad industry was threatened by a crippling strike. Communist agents in Central and South America threatened democratic governments. Anti-American feeling ran high in some areas.

The national scene. As the first days passed, the country felt the impact of a new, but experienced, leader. Stock values, which had dropped sharply at the news of Kennedy's death, went back up when the exchanges opened after the funeral. This recovery was accepted as a display of confidence in Johnson.

Legislation. The President pushed hard for legislation that had been proposed by President Kennedy. He urged quick passage of a tax cut and a strong civil rights bill, both Kennedy measures. He announced a federal budget of less than $98 billion. This was $500 million less than the previous budget, and $2 billion less than most people had expected. Johnson also proposed a national *War on Poverty.* This program included creating new jobs and building up areas where the economy had faltered. Congress approved the program.

Congress also responded on two other major proposals. It cut taxes for both individuals and corporations, and passed a new civil rights law. Johnson signed the civil rights bill on July 2, 1964. This law opened to blacks all hotels, motels, restaurants, and other businesses that serve the public. The law also guaranteed equal job opportunities for all.

The railroad crisis, in April 1964, plunged Johnson into one of the toughest U.S. labor disputes. The railroads and the union members who ran the trains had been battling over work rules for almost five years. The

companies said outdated rules forced them to hire workers no longer needed. When the companies announced new rules, the unions called a strike.

Johnson arranged a 15-day delay of the strike. He put company and union leaders to work in a room in the White House. Under pressure from Johnson, the two negotiating teams settled the dispute in only 12 days.

Foreign affairs. Johnson conferred with many of the world leaders who came to Kennedy's funeral. He stated his basic foreign policy on Nov. 27, 1963: "This nation will keep its commitments from South Vietnam to West Berlin. We will be unceasing in the search for peace; resourceful in our pursuit of areas of agreement even with those with whom we differ; and generous and loyal to those who join with us in common cause."

Panama provided the first crisis for Johnson. Early in 1964, anti-U.S. riots broke out in the Canal Zone. Tensions eased after Johnson telephoned Panama's president and agreed to discuss outstanding problems.

Vietnam. The United States continued its technical and financial assistance to South Vietnam against the *Viet Cong.* The Viet Cong were Communist-supported guerrilla forces from North and South Vietnam. On Aug. 2, 1964, North Vietnamese torpedo boats attacked the U.S. destroyer *Maddox* in the Gulf of Tonkin. Johnson warned the North Vietnamese that another such attack would bring "grave consequences." On August 4, Johnson announced that the North Vietnamese had again launched an attack in the gulf, this time against the *Maddox* and another U.S. destroyer, the *C. Turner Joy.*

Some Americans doubted that the August 4 attack had occurred, and the attack has never been confirmed. Nevertheless, Johnson ordered U.S. planes to bomb North Vietnam's torpedo-boat bases. He also asked Congress for powers to take "all necessary measures to repel any armed attack against the forces of the United States and to prevent further aggression." On August 7, Congress approved these powers in the Tonkin Gulf Resolution. Johnson used the resolution as a legal basis for increased U.S. involvement in the war.

The "Whirlwind President." Johnson obviously enjoyed being President. He strolled on the White House lawn and chatted with tourists. He met reporters informally. He showed great energy, often speaking several times a day at widely separated places, then going back to his desk in Washington. One reporter called him the "Whirlwind President" during this period.

Johnson's LBJ Ranch in Texas became an informal White House. He entertained many guests there, and usually gave them big, wide-brimmed Texas hats.

Life in the White House. Johnson's two attractive daughters added youthful zest to the White House. Luci liked to invite friends to teen-age dances in the Blue Room. Lynda often cornered her father's visitors to ask them about current affairs. Mrs. Johnson tried to keep life normal for her daughters, but this was sometimes impossible. For example, Secret Service agents had to accompany the girls on their dates.

Luci was married to Patrick J. Nugent in the Shrine of the Immaculate Conception in Washington, D.C., on Aug. 6, 1966. She was the first daughter of a President to marry while her father was in office since Eleanor Wilson in 1914. Luci gave birth to a son, Patrick Lyndon Nugent, on June 21, 1967. Lynda was married to Charles S. Robb in the White House on Dec. 9, 1967. Her first child, Lucinda Desha Robb, was born on Oct. 25, 1968.

Mrs. Johnson entertained graciously, and usually included dancing at White House social functions. President Johnson danced with many of the women guests, and he often selected dancing partners for his guests.

Mrs. Johnson added some of the family's favorite paintings to the White House decorations. Otherwise, she made no changes in what Mrs. Kennedy had done to the mansion. She gave up active direction of the family investments during her husband's presidency.

Full-term President

In 1964, President Johnson easily won nomination for his first full term. He was nominated on his 56th birthday. He chose Senator Hubert H. Humphrey of Minne-

United Press Int.



In a sad, solemn ceremony, Johnson took the presidential oath of office 1 hour and 39 minutes after President John F. Kennedy was assassinated. Johnson took the oath aboard the presidential airplane at Dallas. He stood between his wife, *left,* and Jacqueline Kennedy, the widow of the slain President.



U.S. News and World Report

The Civil Rights Act of 1964, a blow against discrimination, was signed by Johnson as members of Congress, including Senator Hubert H. Humphrey, *fourth from right, standing,* watched.

Johnson's election

Place of nominating convention	Atlantic City, N.J.
Ballot on which nominated	1st
Republican opponent	Barry M. Goldwater
Electoral vote*	486 (Johnson) to 52 (Goldwater)
Popular vote	43,126,584 (Johnson) to 27,177,838 (Goldwater)
Age at inauguration	56

*For votes by states, see **Electoral College** (table).

sota as his running mate. Their Republican opponents were Senator Barry M. Goldwater of Arizona and Representative William E. Miller of New York.

Johnson won reelection in a landslide. He received 486 electoral votes to only 52 for Senator Goldwater, and Johnson carried 44 states and the District of Columbia.

The Great Society. The economy boomed during Johnson's full term. In May 1964, he stated that ". . . we have the opportunity to move not only toward the rich society and the powerful society, but upward to the Great Society." The term *Great Society* caught on, and was used to describe many of the President's domestic programs. These programs included continuing the War on Poverty, improving the educational system, providing for elder citizens, and aiding urban areas.

Johnson was extremely successful in 1965 and 1966 in getting his proposals passed by the 89th Congress. He was aided by large Democratic majorities in both houses. Congress passed his Appalachia bill, a measure to improve living standards in an 11-state Appalachian Mountain region. It also passed his proposals for increased federal aid to education, a cut in excise taxes, stronger safety measures for automobiles, and the establishment of two new executive departments—the Department of Housing and Urban Development and the Department of Transportation. Medicare, a health insurance plan for the aged, also was passed.

Johnson pushed additional civil rights legislation. In 1965, Congress passed a voting rights law designed to ensure voting rights for blacks. Among other things, the law outlawed literacy tests as a voting requirement. The Civil Rights Act of 1968 was designed to end racial discrimination in the sale or rental of houses and apartments. A new housing law, also passed in 1968, provided over $5 billion in federal funds to help the needy buy houses and rent apartments.

The widening Vietnam War became Johnson's chief problem. When he became President, U.S. forces in Vietnam consisted of about 16,300 military advisers. In the spring and summer of 1965, he ordered the first U.S. combat troops into South Vietnam to protect U.S. bases there and to stop the Communists from overrunning the country. U.S. planes stepped up bombing attacks against

Lyndon Baines Johnson Library



The Johnson family in 1968 consisted of, *left to right,* son-in-law Patrick J. Nugent; daughter Luci; Lady Bird; Johnson and grandson Patrick; daughter Lynda; and her husband, Charles S. Robb.

North Vietnam. The number of casualties and the cost of the war mounted. By 1968, there were more than 500,000 U.S. troops in South Vietnam. See **Vietnam War.**

A bitter debate developed in the United States over the U.S. role in the war. Many Americans became *hawks,* favoring sterner military action to end the war. Many others became *doves,* calling for a cutback in the fighting and eventual U.S. withdrawal from the war. Two of the chief critics of U.S. involvement in the war were Democratic Senators Eugene McCarthy of Minnesota and Robert F. Kennedy of New York.

Other developments. In mid-1965, rebels tried to overthrow the government in the Dominican Republic. Johnson, fearful that Communists were gaining control of the rebel forces, sent U.S. troops to help put down the rebellion. All U.S. troops were withdrawn by mid-1966, after order was restored and elections were held. See **Dominican Republic** (History).

Johnson named the first black to the Cabinet when he made Robert C. Weaver secretary of housing and urban development in 1966. In 1967, he appointed Thurgood Marshall to the Supreme Court of the United States. Marshall became the first black Supreme Court justice.

Johnson took part in several conferences with other world leaders. In October 1966, he discussed the Vietnam War with six Asian Allied leaders in Manila, Philippines. In June 1967, he met Soviet Premier Aleksei Kosygin in Glassboro, N.J., to discuss world problems.

Problems at home began to increase in 1967. More Republicans were elected to the 90th Congress, and many of them opposed Johnson's Great Society programs. Some members of Congress said government spending at home should be cut to help absorb the costs of the Vietnam War. Johnson and his supporters said the United States could afford both "guns and butter." That is, the government could continue programs to help the people at home while paying the war costs. In 1967, Congress slashed appropriations for many of Johnson's programs. In 1968, Congress voted a temporary surtax in addition to the regular income tax to help pay for the war and check inflation.

Opposition grew to the increasing U.S. role in the Vietnam War, and racial unrest increased. Demonstrations occurred throughout the nation. Riots broke out in the overcrowded ghetto slums of Chicago, Cleveland, Detroit, Los Angeles, New York City, and Newark. Johnson had to send federal troops to Detroit in July 1967, to stop a riot there. He appointed a special commission of prominent Americans headed by Governor Otto Kerner of Illinois to try to determine causes of the riots. The commission warned that the United States was moving toward two societies, "one black, one white—separate but unequal."

The war and racial problems at home caused many Americans to question both foreign and domestic policies. Many began to doubt statements by Administration officials on the progress of the war. As this credibility gap grew, Johnson's popularity began to drop. Then Senators Eugene McCarthy and Robert F. Kennedy announced they would oppose Johnson for the Democratic presidential nomination in 1968.

Johnson declines to run. Johnson shocked the nation by announcing on March 31, 1968, that he would not run for reelection. The President said there was "division in the American house" and that he was withdrawing in the name of national unity. At the same time, he announced a reduction in bombing of North Vietnam.

Johnson's order to reduce bombing led to talks between U.S. and North Vietnamese representatives. The talks started in Paris on May 13, 1968. Johnson halted all bombing and other U.S. attacks on North Vietnamese territory on Nov. 1, 1968. His action led to peace talks involving the governments of the United States, North

Quotations from Johnson

The following quotations come from some of Lyndon B. Johnson's speeches and writings.

We have suffered a loss that cannot be weighed. For me, it is a deep personal tragedy. I know that the world shares the sorrow that Mrs. Kennedy and her family bear. I will do my best. That is all I can do. I ask for your help—and God's.
Speech on Nov. 22, 1963, after the assassination of President John F. Kennedy

All I have I would have given gladly not to be standing here today.
First address to Congress as President, Nov. 27, 1963

This administration today, here and now, declares unconditional war on poverty in America . . . . It will not be a short or easy struggle, no single weapon or strategy will suffice, but we shall not rest until that war is won.
State of the Union message on Jan. 8, 1964

The challenge of the next half century is whether we have the wisdom to use that wealth to enrich and elevate our national life . . . . we have the opportunity to move not only toward the rich society and the powerful society, but upward to the Great Society.
Speech at the University of Michigan, Ann Arbor, Mich., May 22, 1964

Poverty has many roots but the tap root is ignorance.
Message to Congress on Jan. 12, 1965

. . . I shall not seek, and I will not accept, the nomination of my party for another term as your President.
Television broadcast on March 31, 1968

Vice President and Cabinet

Vice President	* Hubert H. Humphrey (1965)
Secretary of state	* Dean Rusk
Secretary of the treasury	C. Douglas Dillon Henry H. Fowler (1965)
Secretary of defense	* Robert S. McNamara * Clark Clifford (1968)
Attorney general	* Robert F. Kennedy Nicholas Katzenbach (1965) * Ramsey Clark (1967)
Postmaster general	John A. Gronouski * Lawrence F. O'Brien (1965) W. Marvin Watson (1968)
Secretary of the interior	Stewart L. Udall
Secretary of agriculture	* Orville L. Freeman
Secretary of commerce	Luther H. Hodges John T. Connor (1965) Alexander B. Trowbridge (1967) Cyrus R. Smith (1968)
Secretary of labor	W. Willard Wirtz
Secretary of health, education, and welfare	Anthony J. Celebrezze * John W. Gardner (1965) Wilbur J. Cohen (1968)
Secretary of housing and urban development	* Robert C. Weaver (1966)
Secretary of transportation	Alan S. Boyd (1967)

*Has a biography in *World Book.*

Vietnam, and South Vietnam, and a delegation from the National Liberation Front.

Retirement

Johnson retired to his Texas ranch after Republican Richard M. Nixon's inauguration as the 37th President on Jan. 20, 1969. Later in 1969, Johnson's birthplace near Stonewall and his boyhood home in Johnson City became part of the Lyndon B. Johnson National Historic Site (now Lyndon B. Johnson National Historical Park).

After leaving office, Johnson avoided active participation in politics. In 1971, he published his memoirs, *The Vantage Point: Perspectives of the Presidency, 1963-1969.* That same year, the Lyndon Baines Johnson Library opened at the University of Texas in Austin. It holds many of Johnson's papers and souvenirs.

Johnson suffered a heart attack in April 1972. He slowly recovered and rarely left his ranch. On Jan. 22, 1973, he suffered another heart attack and died. The family cemetery at the ranch, where Johnson is buried, is part of the national historic park. After Johnson's death, the Manned Spacecraft Center at Houston was renamed the Lyndon B. Johnson Space Center. Also, the Texas state legislature made August 27, Johnson's birthday, a legal holiday in the state. Philip Reed Rulon

Related articles in *World Book* include:

African Americans (The civil rights movement)
Austin (picture)
Civil Rights Act of 1964
Great Society
Humphrey, Hubert H.
Johnson Space Center
Kennedy, John F.
Medicare
President of the United States
Texas (Places to visit)
Vice President of the U.S.
Vietnam War

Outline

I. Early life
- A. Boyhood
- B. College student

II. Early political career
- A. Entry into politics
- B. Marriage
- C. Youth administrator

III. U.S. representative
- A. Election to the House
- B. World War II

IV. U.S. senator
- A. Election to the Senate
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V. Vice President

VI. President, 1963-1964
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- B. Problems as President
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- D. Foreign affairs
- E. The "Whirlwind President"
- F. Life in the White House

VII. Full-term President
- A. The Great Society
- B. The widening Vietnam War
- C. Other developments
- D. Problems at home
- E. Johnson declines to run

VIII. Retirement

Questions

What was Johnson's method for getting things done as Senate majority leader?
What was Johnson's occupation before he entered politics?
What was his first job in Washington, D.C.?
Where did Johnson serve in World War II?
Why did John F. Kennedy choose Johnson as his running mate?
When did Johnson first win election to a political office?
Which U.S. Presidents did Johnson serve in Washington?
Where did Johnson take the oath of office as President? Who administered the oath?
What two major pieces of the Kennedy legislative program did Congress pass after Johnson became President?

Additional resources

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Dallek, Robert. *Flawed Giant: Lyndon Johnson and His Times, 1961-1973.* Oxford, 1998. *Lone Star Rising: Lyndon Johnson and His Times, 1908-1960.* 1991.
Lindop, Edmund. *Dwight D. Eisenhower, John F. Kennedy, Lyndon B. Johnson.* 21st Century Bks., 1996. Younger readers.
Unger, Irwin and Debi. *LBJ.* Wiley, 1999.

Johnson, Magic (1959-   ), ranks as one of the greatest players in basketball history. Johnson, who stands 6 feet 9 inches (206 centimeters) tall, played guard for the Los Angeles Lakers of the National Basketball Association (NBA). Johnson revolutionized the guard position because no player of his height had previously blended quickness and agility with superior dribbling, passing, and shooting skills.

Earvin Johnson, Jr., was born on Aug. 14, 1959, in Lansing, Michigan. He was nicknamed "Magic" after a sensational performance in high school. Johnson attended Michigan State University and, as a sophomore, led the team to the 1978-1979 National Collegiate Athletic Association (NCAA) championship. He joined the Lakers in 1979, and helped them win five championships. Johnson won the NBA's Most Valuable Player award for the 1986-1987 and 1988-1989 seasons. His career total of 9,921 assists was an NBA record until it was broken by John Stockton in the 1994-1995 season.


AP/Wide World
Magic Johnson

Johnson retired at the beginning of the 1991-1992 season, after he tested positive for HIV, the virus that causes AIDS. He returned to competition as a member of the "Dream Team," the United States basketball team that won the gold medal at the 1992 Summer Olympic Games. Johnson was head coach of the Lakers briefly in 1994. He returned to the Lakers as a player early in 1996 but again retired at the end of the season. Johnson's autobiography, *My Life,* was published in 1992. After his retirement from basketball, Johnson became a successful businessman specializing in reviving inner city neighborhoods economically. William F. Reed

See also Basketball (picture).

Johnson, Pauline (1861-1913), was a Canadian writer known for poetry about Indian life. She was born on March 10, 1861, on an Indian reservation near Brantford, Ontario. Her father was a Mohawk chief, and her mother was English. Johnson said of her writing: "I am Indian, and my aim, my joy, and my pride is to sing the glories of my own people." Her poetry was first published in 1895. Her poems were collected in *Flint and Feather* (1912). She also wrote *Legends of Vancouver* (1911), a series of stories about Canada's Squamish tribes. Her full name was Emily Pauline Johnson. Rosemary Sullivan

Johnson, Philip Cortelyou (1906-   ), is an American architect. Johnson first gained recognition as an architectural critic. In 1932, he became the director of the architecture department at the Museum of Modern Art

in New York City. With Henry-Russell Hitchcock, Johnson produced an exhibition catalog called *The International Style* (1932). The catalog defined and named the style that dominated European and American architecture in the early and mid-1900's. See **Architecture** (The International Style).

Johnson became an architect in the early 1940's. His first major design was the Glass House (1949) in New Canaan, Connecticut. Johnson based the design on the works of Ludwig Mies van der Rohe, a leader of the International Style. Johnson and Mies later collaborated on the design for the Seagram Building (1958) in New York City. See **Mies van der Rohe, Ludwig**.

Johnson has been identified with the International Style. However, many of his buildings reveal a romantic quality and an emphasis on historical elements not found in typical examples of the International Style.

In the 1970's, Johnson became a leader of a movement called *postmodernism*. Postmodern architects make free and explicit use of the arch and other traditional architectural elements. In 1978, Johnson and his partner, John Burgee, designed a controversial postmodern structure, the American Telephone and Telegraph Company (now AT&T Corp.) headquarters building in New York City. The front of the building resembles a grandfather clock. He designed the six buildings in PPG Place (1983) in Pittsburgh, Pennsylvania, with elements of Gothic architecture. Johnson was born in Cleveland.

Nicholas Adams

See also **Architecture** (introduction [picture]; Architecture today); **Postmodernism**.

Johnson, Randy (1963-), ranks among the most dominant pitchers in baseball. Johnson won the 1995 Cy Young Award as the best pitcher in the American League. He won the award in the National League in 1999, 2000, and 2001.

Johnson has led the major leagues in strikeouts eight times, from 1992 through 1995 and from 1998 through 2001. In 2000, he became only the 12th pitcher in major league history to strike out 3,000 batters during a career. In 2001, Johnson became the first pitcher to record 300 or more strikeouts in four consecutive seasons.

Johnson, known as the "Big Unit," is one of the tallest players in baseball history, standing 6 feet 10 inches (208 centimeters). His size and his powerful fast ball make him one of baseball's most intimidating pitchers.

Randall David Johnson was born on Sept. 10, 1963, in Walnut Creek, California, and attended the University of California from 1982 to 1985 on both basketball and baseball scholarships. He was signed by the Montreal Expos in 1985 and pitched in the minor leagues until 1988, when he made his major league debut with the Expos. Montreal traded Johnson to the Seattle Mariners in 1989.

Seattle traded Johnson to the Houston Astros in 1998. After the1998 season, Johnson signed as a free agent with the Arizona Diamondbacks. Dave Nightingale

Johnson, Richard Mentor (1780-1850), was vice president of the United States from 1837 to 1841 under President Martin Van Buren. He was the only vice president ever elected by the Senate. In the election of 1836, no vice presidential candidate got the majority of electoral votes required by the 12th Amendment. The Senate then chose Johnson, a Democrat, on one ballot.

Johnson was born in Beargrass (now Louisville), Kentucky. Congress presented him with a sword for his bravery during the War of 1812. He was reputed to have killed the Indian chief Tecumseh. Johnson served in the U.S. House of Representatives at various times and in the Senate from 1819 to 1829. James C. Curtis

See also **Vice President of the United States** (picture).

Johnson, Samuel (1709-1784), was the greatest English writer of his day and the subject of a famous biography by his friend James Boswell. Boswell preserved the wit and brilliance of Johnson's conversation; the sharpness of his opinions on people, politics, and literature; and the vigor of his personality. These qualities enabled Johnson to outshine even the most gifted people of his age, including Sir Joshua Reynolds, Edmund Burke, David Garrick, Oliver Goldsmith, and other members of the Literary Club, which Johnson and Reynolds founded in 1764.

Although Johnson was a remarkable man, his achievements as a writer are even more impressive. Johnson said he talked for pleasure and wrote for bread—and yet he did both very well. His style marked a high point in English prose, and he wrote with a sense of the moral and intellectual responsibilities of authorship.

Early years. Johnson was born on Sept. 18, 1709, in Lichfield, the son of a bookseller. He attended Oxford University in 1728 and 1729 but had to leave after his money ran out. Johnson was nearly penniless when he moved to London in 1737. He contributed to *The Gentleman's Magazine* from 1738 to 1743, serving chiefly as a reporter of parliamentary debates. His poem *London* (1738), written in the style of the Roman satirist Juvenal, brought him to the attention of the public. The major productions of this early period were a biography of his friend Richard Savage (1744) and his most famous poem, *The Vanity of Human Wishes* (1749), a Christianized imitation of Juvenal's *Tenth Satire*.

Later years. Between 1747 and 1755, Johnson produced almost single-handedly his massive *Dictionary of the English Language,* which established his fame as a scholar. He developed an equally great reputation as a teacher of moral and religious wisdom through a series of essays in *The Rambler* (1750-1752) and other magazines, and in his philosophical tale, *Rasselas, Prince of Abyssinia* (1759).

The great projects of Johnson's later years were his eight-volume edition of Shakespeare's plays (1765) and his collection of essays *The Lives of the English Poets* (1779-1781). Some opinions in these works are eccentric. But the works are notable for their keenness and strength of judgment, and the force and polish of the writing.

In 1773, Johnson and Boswell toured the Hebrides Islands of Scotland. Johnson recorded his impressions of the trip in *Journey to the Western Islands of Scotland* (1775). Boswell wrote a diary, *Journal of a Tour to the Hebrides* (1785). Gary A. Stringer

See also **Boswell, James; English literature** (The Age of Johnson); **Dictionary** (Early English dictionaries).

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Rogers, Pat. *The Samuel Johnson Encyclopedia.* Greenwood, 1996.

Johnson, Virginia E. See Masters and Johnson.

Johnson, Walter (1887-1946), was one of the greatest fast ball pitchers in baseball history. Johnson won 416 games while pitching for the Washington Senators of the American League from 1907 to 1927. He held the major league record for most career strikeouts with 3,508 until Nolan Ryan broke it in 1983.

From 1910 to 1919, Johnson won 20 or more games each season, with a high of 36 in 1913. Also in 1913, Johnson pitched 55 $\frac{2}{3}$ consecutive innings without allowing a run, an American League record. Johnson led the league in shut-outs 7 times and holds the major league career record with 110. He also pitched seven opening-game shut-outs. He pitched in 802 games for the Senators, the most for one club in American League history.

Walter Perry Johnson was born in Humboldt, Kansas. He was elected to the National Baseball Hall of Fame in 1936. Jack Lang

Johnson, Sir William (1715-1774), was a British merchant, soldier, Indian agent, and landowner in colonial New York. A major general in the French and Indian War (1754-1763), he defeated the French at the Battle of Lake George. As a reward, he was made a baronet. Johnson helped bring the Mohawk Indians over to the British side in the wars against France. The British government made him superintendent of Indian affairs in the North.

Johnson acquired more than 250,000 acres (100,000 hectares) of land in the Mohawk and Susquehanna valleys. He founded Johnstown, New York, as the "capital" of this area. He was born in County Meath, Ireland.

Fred W. Anderson

Johnson, William Samuel (1727-1819), a lawyer, political leader, and scholar from Connecticut, was a signer of the Constitution of the United States. He attended nearly all the sessions of the Constitutional Convention of 1787, where he became an effective supporter of the *Great Compromise.* This compromise gave the states equal representation in the U.S. Senate. Johnson also served as chairman of the committee on style, which drew up the final form of the Constitution.

Johnson was born in Stratford, Connecticut. He earned degrees from Yale and Harvard colleges. Johnson largely educated himself in law and opened a legal practice in Stratford. He also entered politics and served many terms in the Connecticut legislature between 1761 and 1789. From 1767 to 1771, Johnson acted as a special agent for Connecticut in London. He made many friends in Britain and did not take sides during the Revolutionary War in America (1775-1783). Johnson served in the Congress of the Confederation from 1785 to 1787 and in the U.S. Senate from 1789 to 1791. He was president of Columbia College in New York City from 1787 to 1800.

Jere Daniell

Johnson Foundation is one of the largest private charitable organizations in the United States and the largest one devoted to improving health and health care. Its full name is the Robert Wood Johnson Foundation. It focuses on populations most vulnerable to illness, specific diseases of regional or national concern, and broad national health issues.

The foundation was established in 1936 by Robert Wood Johnson, chairman and chief executive officer of Johnson & Johnson, a large health and medical-care products company. He died in 1968, and his estate of more than $1 billion was donated to the foundation in 1972. The foundation is not connected with any corporation. Its headquarters are in Princeton, New Jersey. For assets, see **Foundations** (table).

Critically reviewed by the Robert Wood Johnson Foundation

Johnson Space Center is the headquarters for all astronaut projects conducted by the National Aeronautics and Space Administration (NASA) of the United States. The center's full name is the Lyndon B. Johnson Space Center. It was formerly called the Manned Spacecraft Center. The center covers about 1,600 acres (647 hectares) in Houston.

The space center serves as training headquarters for U.S. astronauts. After a space flight carrying astronauts lifts off from Cape Canaveral, Florida, the Mission Control Center at the space center controls the flight. Mission Control monitors the various systems that keep the astronauts alive and the spacecraft functioning.

Engineers at the space center supervise the design, development, and construction of spacecraft. The vehicles are built in factories and then checked thoroughly at the space center. Special chambers at the space center reproduce flight vibrations, the vacuum of space, and the great temperature changes in space and on the moon.

Construction of the Manned Spacecraft Center began in 1962, and the center became the headquarters of the U.S. astronaut program in 1964. Scientists and engineers at the center directed the first landing of astronauts on the moon in July 1969. The space center was renamed in February 1973, after the death of former President Lyndon B. Johnson. James R. Hansen

See also **Electronics** (picture); **Texas** (picture).

Johnston, Albert Sidney (1803-1862), was a Confederate general in the American Civil War (1861-1865). He was highly regarded by Confederate President Jefferson Davis. In April 1862, he attacked General Ulysses S. Grant's forces at Shiloh, Tennessee. Grant held a strong position with an army nearly as large as Johnston's. Yet Johnston drove Grant's troops from their positions and almost won the battle. But he was wounded and bled to death.

Johnston was born in Washington, Kentucky. He graduated from the United States Military Academy in 1826. He served in the Black Hawk War and then in Texas's war for independence from Mexico. He was secretary of war for the Republic of Texas from 1838 to 1840. Johnston fought in the Mexican War (1846-1848), and served in Utah from 1858 to 1860. Steven E. Woodworth

Johnston, Joseph Eggleston (1807-1891), was a Confederate general in the American Civil War (1861-1865). He commanded the main Confederate Army in Virginia in 1861 and early 1862. In 1863, he was sent to relieve Vicksburg, Mississippi, which was besieged by General Ulysses S. Grant. But Johnston attempted little, believing he had too few troops. In December 1863, he took charge of the Army of Tennessee and in 1864 began a long retreat in front of General William T. Sherman's advance toward Atlanta. President Jefferson Davis believed Johnston was afraid to fight and relieved him. He did not command again until 1865, when he fought at Bentonville, North Carolina. He surrendered his army to Sherman's troops in April 1865. Johnston was born in

Prince Edward County, Virginia. He graduated from the U.S. Military Academy and became quartermaster general of the U.S. Army just before the Civil War.

Steven E. Woodworth

See also **Civil War** (The War in the East—1861-1863; table: Major battles).

Johnstown (pop. 23,906; met. area 232,621) is a city in southwestern Pennsylvania. It lies in a valley of the Allegheny Mountains (see **Pennsylvania** [political map]). Johnstown is a regional health-care center. The health-care industry is the city's largest employer. Tourism, coal mining, and the production of steel, textiles, transportation equipment, and wood products also contribute to the city's economy. Johnstown is the corporate headquarters for two major real estate developers. The city is the home of a campus of the University of Pittsburgh.

Johnstown was named for a Swiss immigrant, Joseph Johns, who settled there in 1793. In the 1850's, William Kelly developed a new method of making steel there, similar to the Bessemer process. In 1889, Johnstown became a city. That same year, the dam of the South Fork Reservoir, about 12 miles (19 kilometers) east of the city, burst during heavy rains. The resulting flood killed more than 2,000 people, and destroyed property worth more than $10 million. In 1936, another flood took 25 lives and caused $40 million damage. A flood-control system was built in 1937. But in 1977, the Conemaugh River flooded Johnstown. The flood killed 85 people and caused damage of more than $300 million. Johnstown has a mayor-council form of government. William C. Rense

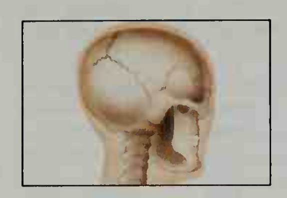
Joint is the place at which two or more bones meet in the skeleton of the body. This place is also called an *articulation.* Joints may be *fixed* or *movable.* Fixed joints are seams between bones that lie directly against each other, or are separated only by a thin layer of connective tissue. In case of a blow or an accident, these joints may absorb just enough shock to keep the bones from breaking. The joints of the *cranium* (covering of the brain) are fixed and protect the brain.

There are three main kinds of movable joints: (1) *hinge* joints, (2) *pivot* joints, and (3) *ball-and-socket* joints. Hinge joints are those that permit a forward and backward motion in one plane, like the motion of a door on its hinges. The joints at the knee and fingers are modified hinge joints. Pivot joints give a rotating motion, such as the movement of the head from side to side. The elbow has both hinge and pivot joints. Ball-and-socket joints allow the greatest freedom of movement. These joints are made up of a large round end of a long bone that fits into the hollow of another bone. The hip and shoulder have ball-and-socket joints. The arms of the body can move more freely than the legs because of the way that the joints are arranged, and because the shoulder blade is only loosely attached to the chest wall.

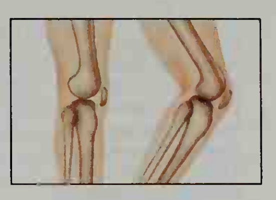
Movable joints are protected from wear and tear in several ways. A smooth layer of *cartilage* (gristle) covers the ends of bones that move over one another. The elasticity of cartilage breaks the force of sudden shocks. Also, the smooth quality of the cartilage makes a joint move easily. A liquid called *synovial fluid* keeps the joints moist and lubricated. See **Cartilage**.

Bones are held together at the joint by strong, fibrous tissues called *ligaments* that attach above and below the joint. At the hip, a number of ligaments circle the bone

Main kinds of human joints



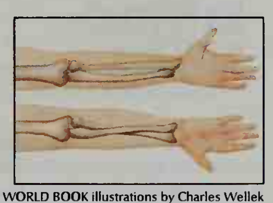
Fixed joints, such as those between the bones of the skull, permit no movement.



Hinge joints, such as the knee, allow backward and forward movements.



Ball-and-socket joints, like the shoulder, provide swinging and rotating movements.



WORLD BOOK illustrations by Charles Wellek

Pivot joints, such as those found in the elbow, permit a rotating kind of movement.

like a collar to keep the joint in place.

Joints are often sprained or dislocated. A sprain occurs when the ligaments around a joint are torn or badly stretched. Serious sprains are painful, and if neglected may result in instability of the joint. Dislocated joints should be treated as soon as possible by a physician. Inflammation of the joints may result from infections or from such disorders as arthritis. Bruce Reider

Related articles in *World Book* include:

Ankle	Bunion	Gout	Rheumatology
Ankylosis	Bursitis	Hip	Sprain
Arthritis	Dislocation	Knee	Wrist
Arthroscopy	Elbow	Ligament	

Joint Chiefs of Staff (JCS) is the highest military advisory group in the United States. The chairman of the JCS is the principal military adviser to the U.S. president, the secretary of defense, and the National Security Council. Other members include the chiefs of staff of the Army and Air Force, the chief of naval operations, the commandant of the Marine Corps, and a vice chairman. The chairman is appointed by the president with the approval of the Senate. The chairman, who outranks all other officers, presides at meetings.

The Joint Chiefs prepare military plans and review overall military requirements. They represent the United States on military committees of international organizations. They also direct the unified and specified combatant commands under the secretary of defense. The chairman regularly reviews these commands and makes appropriate recommendations to the president.

The *Joint Staff* aids the JCS. It includes directorates of personnel, intelligence, operations, logistics, plans and policy, and communications-electronics. The vice chairman of the JCS manages the Joint Staff.

The Joint Chiefs of Staff developed from the Combined Chiefs of Staff organization set up by the United States and the United Kingdom early in World War II. It first met in 1942. Its members were the Army chief

Chairmen of the Joint Chiefs of Staff

Name	Year appointed	By president
* Omar N. Bradley	1949	Truman
* Arthur W. Radford	1953	Eisenhower
Nathan F. Twining	1957	Eisenhower
Lyman L. Lemnitzer	1960	Eisenhower
* Maxwell D. Taylor	1962	Kennedy
Earle G. Wheeler	1964	Johnson
Thomas H. Moorer	1970	Nixon
George S. Brown	1974	Nixon
David C. Jones	1978	Carter
John W. Vessey, Jr.	1982	Reagan
William J. Crowe, Jr.	1985	Reagan
* Colin L. Powell	1989	G. H. W. Bush
John Shalikashvili	1993	Clinton
Henry H. Shelton	1997	Clinton
Richard Myers	2001	G. W. Bush

*Has a separate biography in *World Book.*

of staff, chief of naval operations, and chief of the Army air forces. Later the president's chief of staff also became a member. In 1947, Congress established the JCS as a permanent agency within the National Military Establishment (now Department of Defense). It also set up the Joint Staff of about 100 officers under the JCS. Congress in 1949 created the office of chairman of the JCS. In 1958, it increased the Joint Staff to 400 officers.

In 1978, the commandant of the Marine Corps joined the JCS. Previously, the commandant had been a member only when the JCS discussed Marine Corps matters. In 1986, Congress strengthened the chairman's position and added the vice chairman position. Joel Slackman

Joint-stock company was a form of business organization in which the funds to carry on business were obtained by selling shares of stock to a number of individuals. Such companies, which were common in the 1600's and 1700's, were the forerunners of modern corporations (see **Corporation**). See also **Colonial life in America** (Why the colonists came to America); **East India Company; Hudson's Bay Company.**

Joint tenancy is the ownership of a piece of property by two or more people. Each owner has equal rights to the use of the property during their lives. At the death of each owner, the property goes to the survivors. The last survivor becomes the sole and exclusive owner of the property, with the absolute right to sell or give it to anyone. Joint tenancies were once limited to real estate, but today they may be created in personal property as well. For example, two or more people might own a painting as joint tenants with the right of survivorship.

The right of survivorship distinguishes a joint tenancy from the ordinary *tenancy in common.* Under a tenancy in common, each tenant's share passes to his or her successors at the death of the tenant. While living, a joint tenant can convey the share in the joint-tenancy property to another person. But this act severs the joint tenancy. The ownership then becomes an ordinary tenancy in common. In the United States, a few states do not recognize the joint tenancy of real estate. Joel C. Dobris

Jojoba, *hoh HOH buh,* is an evergreen shrub that grows wild in desert regions of northwestern Mexico and the southwestern United States. Jojobas produce seeds, also called *beans* or *nuts,* that contain an oil. Jojoba oil is similar to the oil obtained from sperm whales. In 1971, the United States government banned whaling and the import of whale products. As a result of the ban, jojoba oil has become a valuable substitute for sperm whale oil in lubricants, cosmetics, and many industrial chemicals. Jojobas began to be grown on plantations in the late 1970's.

Jojobas grow from 3 to 8 feet (0.91 to 2.4 meters) tall in the wild. Each female jojoba produces up to about 10 pounds (4.5 kilograms) of seeds annually.

Donald J. Pinkava

Scientific classification. The jojoba belongs to the family Simmondsiaceae. Its scientific name is *Simmondsia chinensis.*

Joliot-Curie, *zhaw LYOH koo REE,* **Irène,** *ee REHN* (1897-1956), was a French physicist known for her work with radioactivity, especially the production of artificial radioactive elements. She was the daughter of the Nobel Prize-winning physicists Marie and Pierre Curie. Joliot-Curie and her husband, Frédéric, shared the 1935 Nobel Prize for chemistry.

In 1933, the Joliot-Curies determined the conditions under which *positrons* (positive electrons) could be emitted when high-energy radioactive particles passed through matter. In 1934, they demonstrated that the bombardment of boron by alpha particles created a radioactive isotope of nitrogen. This discovery, which led to the production of artificial radioactive elements, resulted in their being awarded the Nobel Prize.

Irène Curie was born in Paris. She served as her mother's assistant at the Radium Institute (now the Curie Institute), where she met Frédéric Joliot. She later became a member of the French Atomic Energy Commission. Under the direction of this group, France put a nuclear reactor into operation in 1948. Romualdas Sviedrys

Jolliet, *JOH lee eht,* **Louis,** *lwee* (1645-1700), also spelled *Joliet,* was a French-Canadian explorer who led an expedition down the Mississippi River. He and Jacques Marquette, a French missionary, were probably the first white explorers to reach the upper Mississippi and parts of Illinois and Wisconsin.

Early life. Jolliet was born near Quebec City in what was then the French province of New France (now Canada). As a boy, he attended a school in Quebec run by Jesuit priests. Jolliet began to study for the priesthood when he was a teen-ager. But he later changed his mind and left school at the age of 22.

From 1669 to 1671, Jolliet explored much of the Great Lakes region for the government of New France. During this time, he became a skilled mapmaker and also worked as a fur trader. About 1670, Jolliet established a fur-trading post at Sault Sainte Marie in what is now Ontario, Canada. He traded guns, knives, and other items to Indian trappers in exchange for beaver pelts, which brought great profits in France.

Discovery and exploration. The Indians of the Great Lakes region often talked about a great waterway that flowed to the sea. They called it the Mississippi, which in their language meant *big river.* The French thought this river might flow west to the Pacific Ocean and provide a trading route to the Far East.

In 1673, Governor General Comte de Frontenac of New France sent Jolliet to find the Mississippi and trace its course. Marquette, a Jesuit priest who had worked among the Indians as a missionary and knew their languages, was chosen to accompany Jolliet.

In May 1673, Jolliet and Marquette, accompanied by

five other men, set out in two canoes from St. Ignace on northern Lake Michigan. They traveled through what is now Wisconsin to the Mississippi. For a map of their journey, see **Marquette, Jacques.**

As Jolliet and Marquette paddled down the Mississippi, they realized that the river flowed south, not west. They concluded that it probably emptied into the Gulf of Mexico. When the group reached the mouth of the Arkansas River, they began to encounter unfriendly Indians. A friendly Indian told Marquette that white people lived farther south on the Mississippi. Jolliet and Marquette assumed these people must be Spaniards who had settled near the Gulf of Mexico.

Fearing attacks by the Indians and the Spaniards, the party turned back. They returned to Lake Michigan through the area that became Illinois. Jolliet's canoe overturned in the St. Lawrence River near Montreal, and all his maps and records of the journey were lost. He later made some maps from memory. The entire expedition took about five months.

Later years. The government of New France gave Jolliet Anticosti Island in the Gulf of St. Lawrence as a reward for his service. He traveled up into Hudson Bay in 1679 and explored the coast of present-day Labrador in 1689 and 1694. On these expeditions, Jolliet made many *hydrographs* (maps of navigable waters). In 1697, he was appointed hydrographer of the king with headquarters in Quebec. He also taught navigation at a Jesuit college there. David P. Hardcastle

Jolly Roger. See **Pirate.**

Jolson, Al (1886-1950), was a popular American stage and motion-picture entertainer. Jolson was an exuberant performer with a warm singing voice. He became identified with a number of popular songs, including "April Showers," "Avalon," "California, Here I Come," "My Mammy," "Swanee," and "Toot, Toot, Tootsie!" Jolson starred in the first important sound motion picture, *The Jazz Singer* (1927). He appeared in a number of other films during the late 1920's and the 1930's.

Jolson was born on May 26, 1886, in Srednike, Lithuania, near Kaunas. His real name was Asa Yoelson. Jolson's family emigrated to the United States when he was 8 years old. He appeared in minstrel shows and in burlesque and vaudeville before making his debut on Broadway in the musical *La Belle Paree* (1911).
Gerald Bordman

Jonah, Book of, is one of a group of books of the Bible called the *Prophets.* The Book of Jonah is the only book in the group that tells a story about a prophet. The other books consist of statements by prophets. The Book of Jonah was probably written in the 400's B.C.

The Book of Jonah begins with God's calling upon Jonah to prophesy against the wicked people of the city of Nineveh. But Jonah tries to flee from God's mission in a ship. During the voyage, God creates a great storm. The sailors decide that Jonah is the reason for the storm, and they throw him into the sea. God orders a "great fish," traditionally considered a whale, to swallow Jonah. Jonah lives in the fish for three days before God orders the fish to spit Jonah onto land.

God again tells Jonah to go to Nineveh, and this time Jonah obeys. Jonah's prophecy frightens the Ninevites into changing their sinful ways, and God spares them. God's mercy angers Jonah. Jonah goes outside Nineveh and waits to see what will happen to the city. God causes a plant to grow so that Jonah will have shade from the sun. But the next morning, God causes a worm to destroy the plant. God contrasts Jonah's sympathy for the plant with his lack of sympathy for Nineveh. According to one interpretation, the story contrasts the narrow concerns of Jonah with the universal concerns of God. The story calls on the Jews to reject narrow nationalism and return to their mission of preaching God's forgiveness and mercy to all people. Eric M. Meyers

See also **Bible** (Books of the Old Testament).

Jonathan, Brother. See **Brother Jonathan.**

Jones, Absalom (1746-1818), was a leader of the struggle to give African Americans control over their religious worship. He founded the St. Thomas African Episcopal Church, the first Episcopal Church for blacks in the United States, and also became the first black Episcopal priest.

Jones was born a slave in Sussex County, Delaware, on Nov. 6, 1746. In 1762, he moved with his master to Philadelphia, where he worked in his master's grocery store. Jones bought his freedom in 1784 with money he had saved. He became a lay preacher at St. George's Methodist Episcopal Church in Philadelphia. In 1787, Jones and Richard Allen, another lay preacher at St. George's, established the Free African Society, a service organization for blacks. Later in 1787, he and Allen led black members of the church in a walkout protesting a new church policy that required blacks to sit at the back of the balcony.

In 1794, the Free African Society split into two groups. One group, led by Jones, formed the St. Thomas African Episcopal Church. Allen and the other group formed the Bethel African Methodist Episcopal Church. Jones was ordained a priest in 1804. Edgar Allan Toppin

See also **Allen, Richard.**

Jones, Bobby (1902-1971), an American golfer, was one of the greatest players in the history of the sport. In 1930, Jones became the only player ever to win the United States Open, the British Open, the United States Amateur, and the British Amateur tournaments in one year. These were the world's four major golf events at that time. After completing this "Grand Slam," Jones retired from tournament play at the age of 28.

Between 1923 and 1930, Jones won 13 major titles. In addition to his Grand Slam, he won the U.S. Open in 1923, 1926, and 1929; the British Open in 1926 and 1927; and the U.S. Amateur in 1924, 1925, 1927, and 1928.

Jones was born on March 17, 1902, in Atlanta, Georgia. His full name was Robert Tyre Jones, Jr. After his retirement, Jones and banker Clifford Roberts founded the Augusta National Golf Club in Augusta, Georgia. In 1934, they established an annual tournament for the course that was later called the Masters. The Masters is now one of golf's major championships. Marino A. Parascenzo

Jones, Casey (1863-1900), was an American railroad engineer who gave his life in a train crash to save his passengers and crew. His bravery inspired a number of ballads that made him a folk hero.

Jones was an engineer on the *Cannonball Express.* On April 30, 1900, he volunteered to replace a sick engineer on the train's southbound run from Memphis to Canton, Mississippi. At Vaughan, Mississippi, the main track was blocked by two freight trains that extended from a sid-

ing. Jones's train smashed into the rear of the two freights. His body was found in the wreckage with one hand on the brake lever. If Jones had not stayed in the engine to jam on the brakes, the crash would have been much worse. Jones was the only person killed.

The train wreck might have been forgotten except for Wallace Saunders, a black railroad worker. He wrote a song about Jones that was based on a number of earlier ballads. The vaudeville team of T. Laurence Seibert and Eddie Newton rewrote Saunders's ballad and added it to their act. They published the song in 1909, and their version became the basis of many ballads about Jones by singers in the United States, Europe, and South Africa.

John Luther Jones was born on March 14, 1864, in southeastern Missouri. He was nicknamed Casey for Cayce, Kentucky, where he grew up. Harry Oster

See also **Locomotive** (picture: *Engine 382*).

Jones, Davy, in sailors' folklore, is a wicked spirit who rules over the souls in the ocean deep. He is known chiefly through the term for the bottom of the sea, *Davy Jones's locker.* This is the final resting place of lost articles, sunken ships, and sailors who have drowned or been buried at sea. Thus, Davy Jones's locker has come to mean death. Scholars are not certain how the name *Davy Jones* originated. Jones may refer to Jonah, the Hebrew prophet who, according to the Bible, lived three days in the belly of a "great fish." Octavia N. Cubbins

Jones, Ernest (1879-1958), a British physician, helped introduce the principles of psychoanalysis in the United Kingdom, Canada, and the United States. He was a friend and strong supporter of Sigmund Freud, the Austrian physician who developed psychoanalysis as a method of treating mental illness. Jones wrote *The Life and Work of Sigmund Freud* (1953-1957), a three-volume biography of Freud.

Jones was born on Jan. 1, 1879, in what is now Gowerton, Wales, near Swansea. He received his medical degree from University College of London in 1900. He later studied neurology and psychiatry and became interested in psychoanalysis. Jones met Freud in 1908 and worked from then on to promote psychoanalysis. His efforts contributed to the eventual acceptance of Freud's theories by physicians and other scientists.

Jones helped establish the American Psychoanalytic Association in 1911 and the British Psycho-Analytical Society in 1913. He also served as editor of the *International Journal of Psycho-Analysis.* Jones wrote many articles supporting his theory that psychoanalysis provides greater understanding of art, literature, and other creative fields. Hannah S. Decker

Jones, Inigo (1573-1652), was the first major architect of the English Renaissance. Jones studied the designs of the Italian architect Andrea Palladio in northern Italy during trips he took about 1600 and again in 1613 and 1614. Jones introduced the Palladian style into English architecture. Its qualities appear in Jones's most admired building, the Banqueting House (1619-1622) at Whitehall Palace in London.

Jones was born on July 15, 1573, in London. He served as *surveyor* (architect) to King James I from 1615 to 1625 and to Charles I from 1625 to 1642. Jones influenced later theatrical design with his designs of sets, costumes, and stage machinery while in the service of the English court. J. William Rudd

See also **England** (The arts); **Masque; Palladio, Andrea; Architecture** (Later Renaissance architecture).

Jones, John Paul (1747-1792), is often called the *Father of the American Navy.* His heroism against a larger and better-equipped fleet established a tradition that has never been forgotten. His reply to a British demand to surrender, "I have not yet begun to fight," has become a famous Navy slogan.

Jones was born on July 6, 1747, in Kirkcudbrightshire (now Dumfries and Galloway Region), Scotland. His name at birth was John Paul. He went to sea when he was 12 years old, and in 1769 was given command of the merchant ship *John.* On a trip to the West Indies, a sailor died a few weeks after Paul had flogged him. Paul was then charged with murder. But he was later freed, and became captain of the *Betsey* in 1773. The crew of the *Betsey* mutinied, and one of the members of the crew was killed. Paul, again accused of murder, fled to America. There he added Jones to his name, probably to hide his identity.

Navy commission. The outbreak of the Revolutionary War in America in 1775 gave Jones a chance to go back to sea. He received a commission as a lieutenant in the Continental Navy on Dec. 7, 1775, and became first lieutenant of the *Alfred,* the first naval ship bought by the Continental Congress. In May 1776, Jones took command of the *Providence,* and in August he was made a captain by Congress. He received command of the *Ranger* in June 1777, with orders to sail to France. In 1778, in Quiberon Bay, France, the *Ranger* became the first American ship flying the Stars and Stripes to get a foreign salute (see **Flag** [First United States flags]). Also in the *Ranger* in 1778, Jones raided Whitehaven on the Irish Sea coast of England but did not succeed in burning the ships in the harbor. Shortly after the raid, Jones captured the British sloop *Drake.*

Defeat of the *Serapis.* In 1779, Jones took command of the *Bonhomme Richard (Poor Richard),* which he named in honor of Benjamin Franklin. On September 23, his squadron met a large British convoy in the North Sea. The *Bonhomme Richard* attacked the leading ship of the force, the *Serapis.* The *Serapis* was larger and better armed than Jones's ship, so Jones took his vessel alongside the *Serapis.* The ships were so close that their rigging became entangled and the muzzles of their guns touched. After three hours of hand-to-hand fighting, the British surrendered. Jones's ship was badly damaged and sank two days later (see **Revolutionary War in**



Francis Jalain, Explorer

Inigo Jones's Banqueting House at Whitehall Palace shows influences of Italian architecture in its columns and arches.

America [picture: A naval battle]. Jones then went on in the *Serapis.*

Russian service. In 1781, Jones took command of the *America,* a ship whose construction he supervised. However, the ship was given to France shortly after it was built. Jones then studied naval tactics aboard French vessels for a time. After the war ended in 1783, a move to promote Jones to rear admiral was defeated, and the American Navy was soon abolished.

In 1787, the American Congress awarded Jones a gold medal. Also in 1787, Empress Catherine of Russia persuaded Jones to serve as rear admiral in the Black Sea fleet, which was fighting the Ottoman Turks. Russian officers made Jones's position difficult, and his experience was disappointing. He left Russia in 1789 and went to Paris.

Jones was appointed U.S. commissioner to Algiers in 1792 but died before the appointment reached him in Paris. In 1905, Jones was nominated for the Hall of Fame for Great Americans in New York City. However, the nomination was rejected because of his Russian service. He was not elected to the Hall of Fame until 1925.

James C. Bradford

Jones, LeRoi. See Baraka, Amiri.

Jones, Mary Harris (1830-1930), was a well-known figure in the United States labor movement during the late 1800's and early 1900's. She helped organize unions, largely among coal miners. She also helped found the Industrial Workers of the World, a labor organization formed to oppose conservative policies in the labor movement. Most workers called her "Mother Jones."

Jones persuaded many laborers to strike for better working conditions, higher wages, and shorter hours. She was jailed in West Virginia in 1902 and 1913, and in Colorado in 1913 and 1914, for leading miners' strikes. The jailing of a woman who was more than 70 years old aroused sympathy for the labor movement. However, most of the strikes were unsuccessful.



Culver Pictures

Mary H. Jones

Mary Harris was born on May 1, 1830, in Cork, Ireland. She grew up in Toronto, Canada. She taught school in Monroe, Michigan, and in Memphis before marrying George Jones, an ironworker, in 1861. In 1867, her husband and their four children died of yellow fever in Memphis. She moved to Chicago, where she opened a dressmaking shop. The Great Chicago Fire of 1871 destroyed her business. James G. Scoville

Jones, Quincy (1933-), is one of the most versatile talents in American music. He is a composer, arranger, musician, conductor, and record and film producer. Jones has succeeded in jazz, popular music, rhythm and blues music, musical theater, motion pictures, and television. He has also become a spokesman for racial equality and civil rights.

Jones was born on March 14, 1933, in Chicago. He began his musical career as a teen-ager, playing trumpet in the band of Lionel Hampton. In 1956, Jones became musical director for Dizzy Gillespie's jazz orchestra, which toured the Middle East and South America. In the late 1950's and early 1960's, Jones led his own band, touring the United States and Europe. In 1961, Jones became head of artists and repertoire for Mercury Records. He rose to vice president in 1964, the first African American to hold such a high executive position with a major white-owned record company.



AP/Wide World

Quincy Jones

Jones has composed music for over 30 films and for many TV shows. He has produced many hit albums, including Michael Jackson's *Thriller* (1982). Jones was the subject of a motion-picture documentary, *Listen Up: The Lives of Quincy Jones* (1990). He wrote *Q: The Autobiography of Quincy Jones* (2001). Frank Tirro

Jonestown. See Guyana (History).

Jonquil, *JAHNG kwuhl,* is any of several yellow narcissuses that came from southern Europe and northern Africa. In the United States, the best-known types are a species named *jonquil* and a species called *campernelle jonquil.* The campernelle jonquil is a hybrid bred from different jonquil species. Jonquils bear three to six flowers on a stalk about 1 foot (30 centimeters) high. The flowers' petals are grouped around a tube about 1 inch (2.5 centimeters) long. The name *jonquil* comes from the Latin *juncus,* meaning *rush.* Jonquils are planted in autumn. See also Narcissus. August A. De Hertogh



WORLD BOOK illustration by Robert Hynes

The jonquil has bright yellow flowers and sword-shaped leaves. Jonquils bear three to six blossoms on each stalk.

Scientific classification. Jonquils belong to the amaryllis family, Amaryllidaceae. The jonquil is *Narcissus jonquilla.* The campernelle jonquil is *N. odorus.*

Jonson, Ben (1572-1637), was an English playwright and poet. For nearly 100 years after his death, his reputa-

tion and influence on English drama at least equaled that of his friend William Shakespeare.

Jonson worked carefully, often spending two years writing a play. He was proud of his Greek and Latin learning and severely criticized other playwrights of his day, including Shakespeare, for errors and carelessness he saw in their writing. In 1616, Jonson became the first playwright to prepare an edition of his own works for publication. He thus advanced the claim of the drama to serious consideration as literature. He was also the center of the first literary "club" at the Mermaid Tavern in London. Other members included Sir Walter Raleigh and playwrights Francis Beaumont and John Fletcher.

Jonson's first important play was *Every Man in his Humour* (1598). It is a realistic and satiric comedy of London life in which each character is motivated by a single *humour* (obsession), such as jealousy. In Jonson's later satiric comedies, *Volpone* (1606), *The Silent Woman* (1609), and *The Alchemist* (1610), the humours are generally an aspect of universal human failings, such as greed, ignorance, or superstition.

Jonson wrote more than 30 masques and entertainments for the courts of James I and Charles I. Some of his best poetry appears in these shows (see **Masque**). Jonson's poetry was influenced by such Roman writers as Horace. Jonson's most famous song, "Drink to Me Only with Thine Eyes," shows his classical style with its deceptively simple form and vocabulary. His superb epitaph on the death of his 7-year-old son shows the same skill used to hide his deep grief. Albert Wertheim

Additional resources

Bamborough, John B. *Ben Jonson*. Hutchinson, 1970.
Chute, Marchette G. *Ben Jonson of Westminster*. Dutton, 1953.

Joplin, Scott (1868-1917), was the leading composer of ragtime, a lively, rhythmic kind of music written chiefly for the piano. Joplin gained his greatest fame for "Maple Leaf Rag" (1899). He was also a well-known ragtime pianist.

Joplin, the son of a former slave, was born in Texarkana, Texas. He left home at the age of about 14 and played piano in various Mississippi Valley saloons. About 1894, Joplin settled in Sedalia, Missouri. He played piano in a saloon called the Maple Leaf Club. John Stark, the owner of a Sedalia music store, helped make Joplin famous by publishing "Maple Leaf Rag" and many of his other compositions, including "Peacherine Rag" (1901) and "The Cascades" (1904). Joplin wrote or collaborated on more than 60 pieces of music, including the operas *A Guest of Honor* (1903, now lost) and *Treemonisha* (1911).

In 1907, Joplin moved to New York City to find a producer for his stage works. He became increasingly depressed because no one would produce *Treemonisha*. Joplin was committed to a mental hospital in 1917 and died there. The popularity of rags ended about that time.

An edition of the complete works of Joplin in 1971 revived interest in Joplin's compositions. The popular movie *The Sting* (1973) used Joplin rags as its background score. Productions of *Treemonisha* brought Joplin added fame. In 1976, the Advisory Board on the Pulitzer Prizes awarded Joplin a special citation for his contribution to American music. Richard Jackson

See also **Ragtime**.

Jordan is an Arab kingdom on the East Bank of the Jordan River in the heart of the Middle East. The country is bordered by Syria; Iraq; Saudi Arabia; Israel; and the West Bank, a territory west of the Jordan River. Amman is Jordan's capital and largest city.

Much of Jordan's modern history has been shaped by events in an area often called Palestine. Today, Israel, the West Bank, and the tiny Gaza Strip cover this region. Jordan was once called *Transjordan* because it lay across the Jordan River from Palestine.

In 1950, Jordan annexed the West Bank. Jordan lost the West Bank during the Arab-Israeli war of 1967, and Israel occupied the territory. In 1974, Jordan officially gave up political responsibility for the West Bank. But Jordan continued to play important roles in the administration and financial support of the West Bank. In 1988, King Hussein of Jordan broke Jordan's ties with the West Bank. In 1993, Israel agreed to a plan for withdrawal from the West Bank. See the *Recent developments* section of this article for details.

Jordan has a rapidly growing population. About 50 percent of the people are native Jordanians. Most of the others are Palestinians. About 95 percent of the people are Muslims. Christians make up a small minority group in Jordan.

Jordan's varied terrain includes deserts, mountains, deep valleys, and rolling plains. The country has a warm, pleasant climate, but receives little rain.

Jordan has few natural resources. It mines phosphates and potash but lacks the petroleum deposits of its Arab neighbors. Service industries, such as government and commerce, employ the largest number of workers in the country.

Ruins from various periods of Jordan's history still stand. They include those of the Nabataean capital of Petra from the 400's B.C., the Greek and Roman cities of Gerasa (now Jarash) and Philadelphia (now Amman), and several churches built around A.D. 500 during Byzantine rule. Jordan also has an 850-year-old castle built by crusaders at Al Karak.

Government

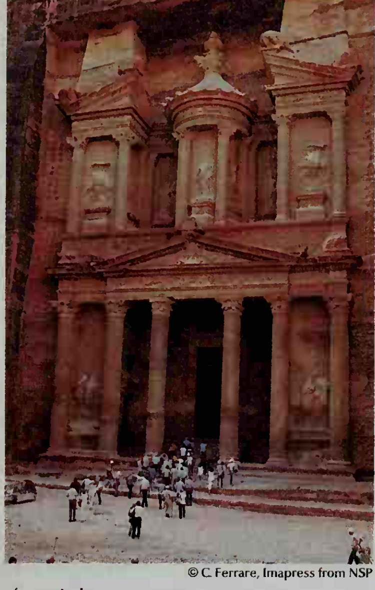
National government. Jordan is a constitutional monarchy. The king of Jordan has widespread powers.

Facts in brief

Capital: Amman.
Official language: Arabic.
Official name: Al-Mamlakah Al-Urdiniyah Al-Hashimiyah (Hashemite Kingdom of Jordan).
Area: 37,738 sq. mi. (97,740 km²).
Elevation: *Highest*—Jabal Ramm, 5,755 ft. (1,754 m) above sea level. *Lowest*—shore of the Dead Sea, about 1,310 ft. (399 m) below sea level.
Population: *Estimated 2002 population*—6,639,000; density, 176 persons per sq. mi. (68 persons per km²); distribution, 78 percent urban, 22 percent rural. *1994 census*—4,095,579.
Chief products: *Agriculture*—barley, cabbages, citrus fruits, cucumbers, eggplants, grapes, melons, olives, tomatoes, wheat. *Manufacturing*—batteries, cement, ceramics, detergents, fertilizer, petroleum products, pharmaceutical products, shoes, textiles. *Mining*—phosphate, potash.
National anthem: "Al-Salam Al-Malaki" ("The Royal Salute").
Money: *Basic unit*—dinar. One thousand fils equal one dinar.



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© C. Ferrare, Imapress from NSP

Jordan presents a sharp contrast between its up-to-date cities and its ancient ruins. Jordan's capital and largest city, Amman, *left,* features modern office buildings and apartment houses. The treasury at Petra, *right,* was carved into the cliffs of this trading center during the A.D. 100's.

He appoints a prime minister to head the government, as well as members of the Council of Ministers, or cabinet. The king also appoints a 40-member Senate to four-year terms. The Senate is one house of the National Assembly, Jordan's legislature. The other house is the Chamber of Deputies. Its 80 members are elected by the people to four-year terms.

Local government. Jordan is divided into eight districts called *governorates.* A governor appointed by the king heads each district.

Courts. Jordan's judicial system consists of civil, religious, and special courts. Civil courts handle most commercial, criminal, and civil cases. Muslims and various Christian groups each have their own religious courts. These courts rule on personal and family matters, such as marriages, divorces, guardianship, inheritances, and wills. Special courts deal with technical legal matters. The king appoints all judges.

Armed forces. The Jordan Arab Army consists of an army of about 90,000 men, an air force with more than 13,000 members, and a small navy. The military employs a high percentage of Jordan's work force, thereby placing a burden on the economy. But Jordan has fought wars with Israel and has faced rebellions by its own Palestinian population. Because of these threats, the government maintains large armed forces despite the cost.

People

Most Jordanians live in the fertile highlands of the northwest. About three-fourths of the people live in towns and cities with populations of 5,000 or more. Amman, Jordan's capital and largest city, has nearly 1 million people. Other cities with more than 100,000 people are Az Zarqa and Irbid.



Jordan's flag was adopted in 1928. It features a seven-pointed star. The points of the star stand for the first seven verses of the Quran, the holy book of Islam.



The coat of arms displays the shield, helmet, and eagle of Saladin, a Muslim warrior. The inscription, written in Arabic, is the king's prayer for aid and success.



Jordan is a country in the Middle East. It is bordered by Iraq, Israel, Saudi Arabia, Syria, and the West Bank.

Ancestry. Native Jordanian Arabs account for about half the population. The remaining population of Jordan consists mainly of Palestinian Arabs, most of whom are refugees of the Arab-Israeli wars of 1948 and 1967. Other Palestinians moved from the West Bank to Amman between the wars, when the West Bank was part of Jordan. Ethnic minorities in Jordan include small numbers of Armenian Christians and Circassian Muslims.

Languages. Arabic is the official language of Jordan. English is also widely taught and spoken. The government prints many documents in Arabic and English. Ethnic minorities often speak their own language.

Way of life. In urban areas, almost all homes and apartments have electric power and running water. Some urban neighborhoods are densely populated. But in general, living conditions are better than in many other developing countries.

About 10 percent of Jordan's population lives in crowded Palestinian refugee camps set up by the United Nations. The refugees live in shelters made of concrete.

Most rural Jordanians live in villages and have homes built of stone and mud, or of concrete. Many villagers grow crops and raise goats and chickens. Other villagers work in construction and mining. Bedouin no-



© Don Smetzer, TSW Click/Chicago

Muslim men read the Quran and use prayer beads in the courtyard of a *mosque* (Islamic house of worship) in Amman. Islam is the religion of about 95 percent of Jordan's people.

Jordan map index

Cities

City	Population	Row	Column
Ajlun	6,280	B	1
Al Aqabah	62,773	F	1
Al Buq'ah*	58,592	B	2
Al Fuhays*	7,400	C	1
Al Karak	16,930	D	1
Al Mafraq	38,393	B	2
Al Mazar ash Shamaliyah*	9,105	B	2
Al Mushayrifah*	41,648	D	2
Amman	969,598	C	2
Anjarah*	10,435	B	1
An Nu'ayyimah*	8,060	B	2
Ar Ramtha	50,055	B	2
Ar Rusayfah*	137,247	C	2
As Safiyah	8,690	D	1
As Salt	56,458	B	1
Ash Shunah ash Shamaliyah*	11,095	B	1
At Tafila	17,355	D	1
Az Zarqa	350,849	B	2
El Jubeiha*	37,421	B	2
Hettin*	35,867	B	2
Husn	11,530	B	2
Irbid	208,329	B	2
Jarash	13,980	B	2
Kufrinjah*	11,870	B	1
Ma'an	15,815	E	1
Madaba	55,749	C	2
Quaismeh*	25,885	C	2
Sahab*	32,153	C	2
Suwaylih*	53,250	B	2
Wadi as Sir*	89,104	C	2
Wadi Musa	7,410	E	1

*Does not appear on map; key shows general location.
Source: 1994 census; 1988 official estimates for places with populations less than 25,000.

Physical features

Feature	Row	Column
Ard as Sawwan (plain)	E	4
Dead Sea	C	1
East Ghor Canal	B	1
Gulf of Aqaba	F	1
Jabal al Ashaqif (mountains)	B	4
Jabal Ramm (mountain)	F	1
Jabash Ruins	B	2
Mediterranean Sea	A	1
Mount Nebo	C	2
Mount Pisgah (ridge)	C	1
Petra Ruins	E	1
River Jordan	B	1
Sea of Galilee	A	1
Syrian Desert	A	4
Wadi al Arabah (seasonal stream)	E	1
West Bank	B	1
Yarmuk (river)	B	2
Zarqa (river)	B	2

mads make up less than 2 percent of the population. They live in tents and move from place to place with their camels and sheep in search of water and pasture. Many Bedouins have settled in towns and villages.

Most Jordanian men and women wear Western-style clothing. The men may cover their head with a cloth called a *kaffiyeh.* Some women wear long, loose-fitting dresses. Some rural Jordanians, including Bedouin men and women, wear traditional flowing robes.

Food and drink. Jordanians eat a variety of foods, including cheese, cracked wheat, flat bread, rice, vegetables, and yogurt. Chicken and lamb are popular meats. A traditional Jordanian dish called *mansef* features lamb cooked in yogurt and served on a large tray of rice. Popular beverages include coffee, fruit juices, mineral water, soft drinks, and tea.

Recreation. Jordanians enjoy watching and playing various sports, particularly basketball, camel racing, horse racing, martial arts, and soccer. Jordanians are very social. Large families frequently gather for a meal or for a picnic in the country. Folk dances, such as the *debke,* are popular at family events.

Religion. Islam is the official religion of Jordan. About 95 percent of Jordan's people are Muslims. Almost all of them follow the *Sunni* or orthodox branch of Islam. Most other Jordanians are Christians.

Islam deeply affects the lives of many Jordanians. Devout Muslims pray five times a day, attend a *mosque* (an Islamic house of worship), fast, give money or goods to the poor, and make a pilgrimage to Mecca, Saudi Arabia, the sacred city of Islam.

Most of the Jordanian Christians are members of the Eastern Orthodox Church. Jordan has various other Christian groups, which include Roman Catholics and Protestants.

Education. Jordan requires children to attend school through the ninth grade. Most children go to government schools. A United Nations agency operates schools for Palestinian refugees. Most of the adult population can read and write. For Jordan's literacy rate, see **Literacy** (table: Literacy rates).

Jordan has many community colleges, vocational schools, and technical institutions. Jordan also has four universities. Many Jordanians attend universities in other Arab countries, Europe, and the United States.

The arts. Jordanian craftworkers make a variety of decorative and useful objects, including jewelry, coffeepots, daggers, and Islamic prayer beads. Many mosques and other buildings feature delicate geometric designs called *arabesques.* Other art forms include elaborate cross-stitch embroidery and beautiful Arabic *calligraphy* (fine handwriting).

Land and climate

Jordan has three main land regions: (1) the Jordan River Valley, (2) the Transjordan Plateau, and (3) the Syrian Desert.

The Jordan River Valley is a deep, narrow valley that extends, in Jordan, from just south of the Sea of Galilee to the Dead Sea. The Jordan River flows through the center of the valley and ends in the Dead Sea. Summer temperatures in this region regularly exceed 100 °F (38 °C). The valley receives little rain. But since the 1960's, Jordan has developed an irrigation system that allows extensive cultivation of fruits and vegetables. The Jordan River Valley is part of the *Great Rift Valley,* a deep cut in the earth's surface. Another part of the Great Rift Valley extends from the Dead Sea to Al Aqabah (see **Great Rift Valley**).

The Transjordan Plateau rises steeply from the Jordan River Valley and the Dead Sea. The plateau covers a wedge-shaped area that begins at the Syrian border and narrows as it extends southward to the region around Ma'an. It consists of broad, rolling plains that have an average elevation of about 3,000 feet (900 meters) above sea level. Steep *wadis* (valleys) cut the Transjordan Plateau.

The plateau includes Jordan's largest cities and most of the country's farmland. Annual rainfall averages about 25 inches (64 centimeters) in the north. Rainfall on the southern plateau is less dependable and averages between 10 and 15 inches (25 and 38 centimeters) a year—barely enough to grow wheat. Average temperatures range between 64 and 86 °F (18 and 30 °C) during the summer and between 40 and 52 °F (4 and 11 °C) during the winter.

The Syrian Desert, also called the northern Arabian Desert, is a vast wasteland to the east and south of the plateau. The desert receives less than 10 inches (25 centimeters) of rain annually. Summer temperatures sometimes reach 120 °F (49 °C).

Economy

Jordan has a developing economy based on free enterprise. Service industries make up the largest part of the economy. The economy depends on foreign aid and on the larger economy of the Middle East. Many Jordanians work abroad, in the service industries of wealthy, oil-producing Arab countries. These workers send money to their families in Jordan.

Service industries employ about 70 percent of Jordan's workers and account for more than 60 percent of



Rami G. Khouri

The Jordan River Valley is Jordan's major agricultural region. This hot, dry area was once largely unsuitable for farming. Today, irrigation and the use of plastic-covered hothouses, *shown here,* allow farmers to grow a variety of fruits, vegetables, and other crops. The land rises, *background,* toward the Transjordan Plateau east of the valley.



Rami G. Khouri

Production of leather goods is an important industry in Jordan. The factory workers shown here are sewing leather pieces to make boots.

the total value of economic production. The government and military employ many Jordanians. Others work in education, trade, and transportation. Tourism helps support many businesses, including hotels and restaurants. Banking and insurance are also important.

Manufacturing and mining employ about 20 percent of Jordan's workers and account for about 30 percent of the total value of economic production. Large plants include a petroleum refinery and fertilizer and cement factories. Smaller industries manufacture batteries, ceramics, cigarettes, detergents, food products, pharmaceutical products, shoes, and textiles. Most of Jordan's small factories are located near Amman. Mining operations produce phosphates and potash, which are used in the production of fertilizer.

Agriculture. Because Jordan is mostly desert, only 3 percent of the land is cultivated. Chief crops of the Jordan River Valley include citrus fruits and such vegetables as cabbages, cucumbers, eggplants, melons, and tomatoes. On the Transjordan Plateau, farmers cultivate such grains as barley and wheat; grapes, olives, and other fruits; vegetables; and nuts. Modern farming methods have become increasingly widespread, especially in the Jordan River Valley.

Foreign trade. Jordan's main exports are phosphates, chemicals, potash, fruits and vegetables, and manufactured products. Imports include machinery, petroleum, grain, and meat. Jordan's chief trading partners are Saudi Arabia, the United States, Italy, Japan, the United Kingdom, Germany, and India.

Transportation and communication. Jordan has a well-developed transportation system. Paved highways link Jordan with all its neighbors. Al Aqabah, Jordan's only port, has been extensively developed to handle cargo shipped through the Red Sea. Amman has a major international airport.

Four daily newspapers—three in Arabic and one in English—are published in Jordan. The government owns and operates the country's radio and television stations. An average of about 1 out of 5 Jordanians owns a radio and about 1 out of 8 owns a TV set. Although the government closely controls communications, there is more freedom of expression in Jordan than in many other Arab countries in the Middle East.

Energy. Except for one dam that produces electricity, Jordan depends on imported oil to generate electricity. Electric power is available throughout most of Jordan.

History

Early days. Written history first mentions what is now Jordan in about 2000 B.C., when Semitic nomads entered the region. By about 1200 B.C., four Semitic peoples—the Ammonites, Amorites, Edomites, and Moabites—farmed and traded in lands east of the Jordan River. During the 900's B.C., the Israelites under Kings David and Solomon conquered and ruled the region. But Moabites led by King Mesha regained control about 850 B.C. Later, the Egyptians, Assyrians, Chaldeans, and Persians invaded and controlled the area. The Nabataeans, a trading people who spoke Arabic, came to power in the 400's B.C. The Nabataeans ruled from their unique capital city carved out of the rose-colored stone cliffs of Petra. Their architecture and art were strongly influenced by the Greeks after about 331 B.C., when Alexander the Great conquered the area. After his death, the Seleucids ruled the northern part of present-day Jordan, and the Nabataeans controlled the southern part.

In the 60's B.C., the Romans took control of Jordan. They built vast trading centers at Philadelphia (now Amman) and Gerasa (now Jarash). When the Roman Empire split in the late 300's A.D., Jordan became part of the Byzantine Empire, also called the East Roman Empire.

Arab and Ottoman rule. In 636, Arab Muslims from the Arabian Peninsula defeated Byzantine armies in the northern Jordan region. The conquering Arabs established their language and religion among the people who lived in the region. They developed an important route through Jordan for Islamic pilgrimages to Mecca.

At the close of the 1000's, Christian crusaders from Europe conquered the eastern Mediterranean coast, including Jerusalem and parts of Jordan. The region had great religious significance for both Christians and Muslims. In 1187, the Muslim leader Saladin drove out the crusaders. His successors were overthrown by Egyptian Mamelukes in 1250.

In 1517, the Ottoman Empire easily defeated the Mamelukes, and most of Jordan became part of the Ottoman Empire. During Ottoman rule, the region's only attraction for outsiders was the pilgrimage route. Bedouins and peasant farmers inhabited the region. The Ottomans did not govern Jordan directly until the late 1800's, when they brought Circassian families to settle in and near Amman. In 1908, a railway was completed along the pilgrimage route, stimulating Jordan's economy.

Independence. During World War I (1914-1918), Sharif Hussein of Mecca in Saudi Arabia led an Arab revolt against Ottoman rule. With the help of the United Kingdom, the revolt led to the defeat of the Ottomans in the Middle East and the establishment of several Arab states.

After the war, the League of Nations appointed the United Kingdom to administer lands east and west of the Jordan River as the mandate of Palestine (see **Man-**

dated territory). In 1921, the British gave the territory east of the Jordan partial self-government by making it an emirate called Transjordan. Abdullah, a son of Hussein, ruled Transjordan as *emir* (prince) under British supervision. In 1922, Transjordan became a mandate separate from Palestine.

Abdullah made Amman the capital of Transjordan and established his authority with considerable help from the United Kingdom. In 1923, the United Kingdom declared that Transjordan should become an independent state. But the British kept control of the state's defenses, finances, and foreign affairs. Transjordan gained complete independence in 1946, but still depended on the United Kingdom for economic aid. British officers commanded the Arab Legion, Transjordan's army. In 1949, Abdullah renamed the country Jordan.

The Palestinian conflict. In 1917, the United Kingdom issued the Balfour Declaration. This document supported the establishment of a Jewish homeland in Palestine without violating the civil and religious rights of the non-Jewish population. At that time, thousands of Jews had immigrated to Palestine, and after World War I, tens of thousands more came. Many came from Europe during the 1930's and 1940's because of German persecution. The Jewish immigration led to fighting between Jews and Palestinian Arabs for control of the land.

Jordan became involved in the Palestinian conflict in 1948. That year, the British mandate of Palestine ended, and the Jews established the state of Israel. Jordan and other Arab countries at once went to war with Israel. When the war ended in January 1949, Israel occupied much of Palestine. Jordan held the West Bank, and Jerusalem was divided between Israel and Jordan. In 1950, Jordan officially annexed the West Bank.

Jordan's population of about 400,000 more than tripled as a result of the war. It gained about 400,000 Palestinian residents of the West Bank and about 450,000 Palestinian refugees from Israel. The Palestinian population caused political and economic tensions. Some Palestinians competed for power with East Bank Jordanians who controlled the government. The refugees burdened Jordan's economy because of the food, shelter, and services they required. But some brought valuable skills and savings to Jordan and set up businesses.

By the mid-1950's, Jordan began to develop petroleum-refining, cement, and phosphate industries. Other parts of the economy, including agriculture, manufacturing, and tourism, began a period of steady growth.

In 1951, Palestinians assassinated Abdullah. His son, Talal, succeeded him. But Talal was removed from the throne in 1952 because of mental illness. Talal's son, 17-year-old Hussein, succeeded him but did not officially take up the duties of king until he turned 18 in 1953.

During the 1950's, Jordan remained unstable. Arab countries competed for political power in the Middle East, and the United States and the Soviet Union sought to extend influence in the region. In 1956, King Hussein replaced the Arab Legion's British officers with Jordanians and renamed it the Jordan Arab Army. The army helped put down a plot to overthrow Hussein in 1957. In the late 1950's, the United States became Jordan's chief Western source of financial and military support.

Tensions between Israel and Arab nations, including Jordan, grew in the early 1960's. Arabs and Israelis disagreed over rights to the waters of the Jordan River. Continuing problems of the Palestinian refugees led to the creation of the Palestine Liberation Organization (PLO) in 1964. The PLO organized raids into Israel from Jordan and Lebanon, and Israel responded with raids into Arab territory. Also in 1964, Jordan and other Arab nations united their armies under one command.



© Sautereau, Photo Researchers

Palestinian refugee camps in Jordan swelled after the 1967 war between Arab nations and Israel. Many Palestinians fled to these camps after Israel occupied their homes in the West Bank.

The 1967 war. In June 1967, Israel defeated Jordan, Egypt, and Syria in a six-day war. Jordan lost East Jerusalem and all of the West Bank to Israeli occupation. About 300,000 Palestinians—both refugees and permanent residents—who had been living in the West Bank fled east. Jordan's economy suffered from the loss of West Bank farmlands and tourist attractions.

Civil war. After the 1967 war, many Palestinian refugees joined guerrilla groups to fight Israel and regain their homeland. By early 1970, these forces represented an unofficial second government in Jordan and threatened to overthrow the monarchy. On Sept. 17, 1970, the Jordanian army attacked the Palestinian guerrillas. Syrian forces entered Jordan to support the Palestinians but later withdrew. Jordan's army defeated the Palestinians within a month. But fighting between the army and isolated guerrilla groups continued into 1971 and beyond. Drained by these ongoing battles, Jordan played a minor role in the 1973 Arab-Israeli war.

Relations with the West Bank. At a meeting of Arab leaders in 1974, King Hussein lost influence in Palestinian affairs when the PLO was declared the only representative of the Palestinian people. Hussein and other Arab leaders agreed that the West Bank should become part of an independent Palestinian state in the event of an Israeli withdrawal. They gave the PLO responsibility for any West Bank territory from which Israel might withdraw. However, Jordan continued to play important administrative and financial roles in the West Bank. For example, the Jordanian government paid the salaries of many West Bank public service workers, including doctors and teachers.

Recent developments. Disagreements between Jordan and the PLO over Palestinian policy led to a major break in 1986. King Hussein tried to set up new leader-

ship for the Palestinians. But the next year, the Palestinians demonstrated their loyalty to the PLO in an uprising against Israel's occupying forces in the West Bank.

In 1988, Hussein broke Jordan's political and administrative ties to the West Bank. He called for the PLO to fulfill the financial and other functions Jordan had handled.

In August 1990, forces from Iraq invaded and occupied Kuwait. The United States and many other countries, including many Arab nations, opposed the invasion and formed an alliance. In January 1991, war broke out between the allied nations and Iraq. Jordan's relations with some Arab countries became strained when it remained neutral in the conflict. See **Persian Gulf War.**

Beginning in 1993, Israel and the PLO signed several agreements that led to the withdrawal of Israeli troops from portions of the West Bank and the Gaza Strip by early 1996. Palestinians then became the governing authorities for these areas. In 1994, Jordan and Israel signed a peace treaty that formally ended the state of war that had technically existed between the two countries since 1948. King Hussein died in 1999. He was succeeded as king by his son Abdullah. Peter Gubser

Related articles in *World Book* include:

Abdullah II	Dead Sea	Jordan River	Petra
Amman	Hussein I	Middle East	Samaria
Arab League	Israel (History)	Mount Pisgah	West Bank
Arabs	Jerusalem	Palestine	

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Questions

What role did the United Kingdom have in Jordan's history?
What are Jordan's land regions?
What types of clothing do Jordanians commonly wear?
How did Jordan lose control of the West Bank?
What powers belong to the king of Jordan?
How has irrigation helped agriculture in Jordan?
What role does Islam play in Jordanian life?
Why was Jordan once called *Transjordan?*
What are Jordan's chief manufactured products?
What is Jordan's capital and largest city?

Additional resources

Insight Guide editors. *Insight Guide: Jordan.* Houghton, 1994.
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Jordan, Barbara Charline (1936-1996), was the first African American woman from a Southern state to serve in the United States Congress. Jordan, a Texas Democrat, was a member of the House of Representatives from 1973 to 1979. In 1976, she became the first black keynote speaker at a Democratic National Convention.

Jordan was born in Houston. She graduated from Texas Southern University and received a law degree from Boston University. Jordan served in the Texas Senate from 1966 to 1972, the first black to hold a seat there since 1883. In 1979, she became a professor at the Lyndon B. Johnson School of Public Affairs at the University of Texas. In 1992, Jordan received the Spingarn Medal for her service in Congress. Charles V. Hamilton

Jordan, Ernst Pascual (1902-1980), was a German physicist. He helped develop *quantum mechanics,* a field of physics that describes the structure of atoms and the motion of atomic particles. In 1925, Jordan helped two other German physicists, Max Born and Werner Heisenberg, write the first mathematical formulation of quantum mechanics. By 1928, he developed a way of analyzing interactions between many atomic particles or waves. He also added to the knowledge of subatomic particles called *neutrinos* and to the theory of gravitation. He was born in Hanover, Germany. Richard L. Hilt

Jordan, Michael (1963-), ranks among the greatest and most exciting players in the history of the National Basketball Association (NBA). Jordan stands 6 feet 6 inches (198 centimeters) tall. He has played guard and forward for the Chicago Bulls for most of his career. His spectacular shooting, especially his acrobatic shots near the basket, has attracted huge turnouts in every NBA arena. Jordan is the fourth highest scorer in NBA history. Only Kareem Abdul-Jabbar, Karl Malone, and Wilt Chamberlain have scored more.

Michael Jeffrey Jordan was born in New York City, and grew up in Wilmington, North Carolina. While a freshman at the University of North Carolina, he made the winning shot in the championship game of the 1982 National Collegiate Athletic Association (NCAA) basketball tournament. He played on the U.S. teams that won first place in men's basketball at the 1984 and 1992 Summer Olympic Games. Jordan helped lead the Bulls to NBA titles in the 1990-1991, 1991-1992, 1992-1993, 1995-1996, 1996-1997, and 1997-1998 seasons.

Jordan was named NBA Rookie of the Year for the 1984-1985 season after scoring 2,313 points, more than any other player that season. He led the NBA in scoring average a record 10 seasons, including 8 consecutive seasons beginning with the 1986-1987 season. Jordan was named the NBA's Most Valuable Player for the 1987-1988, 1990-1991, 1991-1992, 1995-1996, and 1997-1998 seasons. He retired in 1993. He decided to play professional baseball, signing a minor league contract with the Chicago White Sox in 1994.

Jordan rejoined the Bulls in March 1995 and retired again in January 1999. In 2000, he became part owner and president of basketball operations of the Washington Wizards of the NBA and part owner of the Washington Capitals of the National Hockey League. In 2001, Jordan resigned his Wizards management position and announced he would join Washington as a player beginning with the 2001-2002 season. William F. Reed

See also **Basketball** (picture).

Jordan, Vernon Eulion, Jr. (1935-), is an American civil rights leader and lawyer. He was head of the National Urban League from 1972 to 1981, when he resigned and joined a private law firm. Before Jordan assumed the leadership of the league, he had led drives to register African American voters in the South and to raise funds for black colleges. In 1980, he was shot and seriously wounded by an unknown assailant in Fort

Wayne, Indiana. In late 1992 and early 1993, Jordan served as chairman of the group that helped U.S. president-elect Bill Clinton prepare for his presidency.

Jordan was born in Atlanta, Georgia. He graduated from DePauw University in 1957 and earned a law degree at Howard University in 1960. He then worked for an Atlanta civil rights lawyer. In 1961, a federal court ordered the University of Georgia to admit black students. Jordan forced his way onto the campus through an angry white mob while escorting the first black girl admitted. In 1962, he led a boycott against stores in Augusta, Georgia, and persuaded them to hire blacks.

From 1965 to 1969, Jordan served as director of the Voter Education Project of the Southern Regional Council. His success in registering nearly 2 million black voters helped increase the number of black officeholders in the South from about 72 to 564. Jordan received the 2001 Spingarn Medal. Hanes Walton, Jr.

Jordan River, the only important river of Israel and Jordan, rises in the springs of Mount Hermon in Syria. The river is 200 miles (320 kilometers) long. It flows for about 100 miles (160 kilometers) and then falls to the area of Lake Hula (now completely drained). The river empties into the Dead Sea, about 1,310 feet (399 meters) below sea level (see **Dead Sea**).

In the 10 miles (16 kilometers) from the Lake Hula area to the Sea of Galilee, the river falls 689 feet (210 meters). Its many rapids make navigation impossible. Much of the rest of the river is not more than about 5 feet (1.5 meters) deep, except in March. Then, the melting snow from Mount Hermon often causes the river to flood.

The southern half of the river forms the border between the West Bank and Jordan. The northern section forms part of Israel's borders with Jordan and Syria. The waters of the Jordan River are used for irrigation.

The Bible says Joshua led the Children of Israel over the Jordan River into the Promised Land (Josh. 3: 1-17). Christ was baptized in the waters of the river by Saint John the Baptist (Matt. 3:13-17). Peter Gubser

Joseph was the husband of Mary, the mother of Jesus, and a descendant of David, the second king of Israel. According to the Bible, Mary was found to be pregnant after she had been *betrothed* (promised in marriage) to Joseph, but before they were married. Joseph was not the child's father. Joseph took steps to break the betrothal, but in a way that would not put Mary to shame. An angel revealed to Joseph that the child was the son of God. Joseph then took Mary as his wife and legally accepted her child as his own by naming Him. See **Mary**.

Joseph and Mary raised Jesus according to traditional Jewish customs and rites. Jesus was circumcised and presented at the Temple for the prescribed rites of purification and dedication of the first-born.

Little is known about Joseph's life after he and his family settled in Nazareth. Joseph was a craftsman, at least a carpenter and perhaps a contractor. The Gospel accounts seem to indicate that he was still alive when Jesus, at the age of 12, spoke to scholars in the Temple (Luke 2: 41-51), and perhaps at the start of Jesus's public ministry (John 1: 45), and even during Jesus's ministry (John 6: 42). But there are no later mentions of Joseph, though the Gospels mention Mary. There is no mention of Joseph at Jesus's' death and no indication of his presence among the first Christian community in Jerusalem. Jesus entrusted Mary to the care of the apostle John during the Crucifixion, indicating that Joseph had probably died before this time. For more information about Joseph's life, see **Jesus Christ** (Early life).

Early Christian legends portrayed Joseph as an aged widower with children when betrothed to Mary. But based on marriage customs of the times, Joseph must have been in his midteens when he married Mary.

The Eastern Orthodox, Roman Catholic, and Episcopal churches honor Joseph as a saint. Since the Middle Ages, Christian devotion of Joseph has grown. In 1962, Pope John XXIII honored Joseph by decreeing that Joseph's name be included immediately after Mary in the list of saints in the Canon of the Mass. His main feast day is March 19. M. Robert Mulholland, Jr.

Joseph was the Hebrew boy who was sold into Egypt by his brothers and became the great prime minister of Pharaoh. The story of Joseph is powerfully told in the Book of Genesis in the Bible. Joseph was the 11th of the 12 sons of Jacob. He was Jacob's favorite son.

Joseph helped his older brothers tend the flocks in the fields. One day, when he was 17, he appeared among them in a coat with long sleeves. It was the gift of his father. Peasants or herders could not wear such a cloak, because its long sleeves would get in the way. So the cloak was a sign that Joseph was intended for some better occupation. The older brothers were jealous.

One day, when the brothers saw Joseph coming, one of them said, "Let us slay him." But they agreed to put him in a deep pit without harming him, after taking his beautiful coat.

Later, a band of Ishmaelites appeared. Their camels were carrying spices and precious things from Gilead into Egypt. Judah and some of the other brothers drew Joseph out of the pit and sold him to the Ishmaelites for 20 pieces of silver. The brothers then killed a goat, tore the coat, stained it with the goat's blood, and took it to Jacob. They told him a wild beast had destroyed Joseph.

A slave in Egypt. The band of Ishmaelites carried Joseph to Egypt. There, Potiphar, the captain of Pharaoh's guard, bought him. Joseph served his master so faithfully that he became overseer of the household. But he offended Potiphar's wife, because he would not return her love for him. She had him put into prison. But Joseph soon won the jailer's confidence and was placed in charge of all the prisoners.

Pharaoh's chief butler and baker offended their lord, so they were also put in prison. One night they both had strange dreams. Joseph interpreted the dreams correctly for them. Two years later, Pharaoh had two very strange dreams that no one could understand. Then, the butler remembered Joseph. Pharaoh sent for Joseph to come and interpret his dreams. In Pharaoh's first dream, seven fat cows were grazing in the reeds near the river. Seven lean cows came and devoured the fat cows. In the second dream, seven good ears of grain sprang up, but seven thin ones ate them. Joseph said the dreams meant that there would be seven years of plenty in Egypt, followed by seven years of famine. He advised Pharaoh to choose a wise man to gather the extra food in times of plenty to eat when famine came.

The prime minister. Pharaoh was so pleased with Joseph's wisdom that he chose him to oversee the grain storing of all Egypt. For seven years, there were abun-

dant crops. Then came the famine. No grain had been saved in Canaan. Jacob and his family soon needed food. The 10 oldest sons went into Egypt to buy food. They did not recognize Joseph as their brother when they were brought before him because 20 years had passed. But Joseph knew them because the older ones had changed very little. He pretended to think that they were spies and asked them about their home. They said they had another brother, Benjamin. Joseph told them to go get him to prove they spoke the truth. As the brothers left, he ordered their bags to be filled with grain. Joseph kept one brother, Simeon, as a hostage.

When Joseph saw Benjamin, he longed to embrace him and weep for joy. Benjamin was his own brother, the son of Rachel, Joseph's mother, while the others were all half brothers. But Joseph tested their character before he told them who he was. He found that they were thoughtful of their father and Benjamin. Then, Joseph made himself known to them.

The brothers were ashamed to look at Joseph, but he forgave them for their wickedness. After their happy reunion, he told them to bring their father and families to Egypt, where they would have plenty of food.

Settling his family in Egypt. At first Jacob could not believe that Joseph still lived and was a ruler in Egypt. But when he saw the wagons sent to carry his family into the new land, he said, "It is enough. Joseph my son is yet alive; I will go and see him before I die." So his children, grandchildren, and great-grandchildren journeyed to the land of Goshen, where Joseph met them.

Joseph had two sons, Ephraim and Manasseh, who became the fathers of the two tribes that bore their names. Joseph, his sons, and his brothers were the legendary ancestors of the *Twelve Tribes of Israel.* Their story connects the stories of the patriarchs in Genesis and the deliverance in Exodus. Carole R. Fontaine

See also **Benjamin; Jacob; Moses; Pharaoh.**

Joseph, Chief (1840?-1904), was a Nez Perce Indian chief. He became famous for a retreat he led through Idaho and Montana in 1877.

In June 1877, war broke out between Joseph's band and United States troops. The fighting began shortly after government officials had ordered the band to move from its homeland in the Wallowa Valley of Oregon to a reservation in Idaho. The government wanted the land opened to white settlers.

Joseph's forces won several battles, but he realized that they could not defeat the Army. He ordered a retreat to Canada, where he hoped to join forces with Sioux Indians who had fled there. Joseph conducted the retreat with great skill, fighting off the troops and leading a group of women, children, and old men more than 1,000 miles (1,600 kilometers). In October 1877, he finally surrendered about 40 miles (64 kilometers) from the U.S.-Canadian border. In 1878, the government sent Joseph and his people to the Indian Territory in Oklahoma. After about 1885, he lived on the Colville Indian Reservation in Washington. A monument marks his grave in Nespelem, Washington. Cecil Corbett


Library of Congress
Chief Joseph

See also **Indian wars** (The Nez Perce War).

Additional resources

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Joseph of Arimathea, *AR uh muh THEE uh,* was a wealthy member of the Jewish *Sanhedrin* (ruling council) in Jerusalem at the time of Jesus. He did not support the Sanhedrin's actions in condemning Jesus. After the Crucifixion, Joseph received permission to take the body of Jesus. He placed it in his own newly carved tomb. The Gospels suggest that Joseph was a secret disciple of Jesus. Joseph came from Arimathea, a town of uncertain location but probably east of what is now Tel Aviv, Israel. He is said to have taken care of Mary after the Ascension of Jesus until her death. According to another story, Joseph kept the Holy Grail, the cup Jesus used at the Last Supper. M. Robert Mulholland, Jr.

See also **Holy Grail; Galahad, Sir.**

Josephine (1763-1814) was the beloved wife of Napoleon Bonaparte, one of French history's most important figures. She was the daughter of a French planter in Martinique, in the West Indies. She married Vicomte Alexandre de Beauharnais when she was about 17. They had a son, Eugène, and a daughter, Hortense. The vicomte was one of the last victims of the Reign of Terror of the French Revolution. Josephine was in prison for a time and narrowly escaped being guillotined.

Josephine soon became friendly with Vicomte de Barras, a government leader. Through his influence, she got back some of her husband's property, and she became a leader in Paris society. It was at Barras's home that Josephine met Napoleon. He immediately fell in love with her, and they were married in 1796.

Her marriage. Josephine was a beautiful woman. She was graceful and stately in her public appearances, which made her an asset to Napoleon in his climb to power. But her marriage to Napoleon made her a subject of gossip. It was often reported that she had love affairs while Napoleon was absent during his military campaigns. Such reports frequently reached Napoleon and made him angry. Josephine was also an intelligent woman and may have given Napoleon much advice.

Napoleon and Josephine had no children. By 1809, Napoleon was afraid that he might die without a son, and that his empire would crumble. He finally decided he would have to divorce Josephine. He told her of his decision, as gently as he could. She promised never to doubt Napoleon's love. Josephine then retired with imperial honors to Malmaison, the small estate near Paris which Napoleon had bought for her.


Visual Education Service
Josephine

Her last years. Napoleon married Marie Louise of Austria in 1810. A year later, a son was born to them (see **Marie Louise; Napoleon II**). Josephine heard the cannon shots announcing the birth, and Napoleon sent her a special message. He once brought his son to Malmaison, without Marie Louise's knowledge. Josephine had begged to see him.

Marie Louise was not allowed to go with Napoleon to exile at Elba. Josephine wrote a letter to Napoleon and asked permission to join him. He was forced to write back that it was impossible. But before his letter arrived, Josephine had died. Donald Sutherland

See also **Napoleon I.**

Josephus, *joh SEE fuhs,* **Flavius,** *FLAY vee uhs* (A.D. 37?-100?), was a Jewish historian. He wrote *The Jewish War,* a history of the war between the Jews and Romans, and *Jewish Antiquities,* a history of the Jews.

Josephus was born Joseph ben Matthias in Jerusalem. He was an aristocrat, a priest, and a Pharisee (see **Pharisees**). He commanded Jewish forces in Palestine during the great Jewish revolt that broke out there against Roman rule in A.D. 66. The Jews were defeated, but Josephus was spared by the Roman commander. Josephus later became a Roman citizen. D. Brendan Nagle

Joshua, *JAHSH uh wuh,* a lieutenant of Moses, led Israel in the conquest of Canaan (later called Palestine) after Moses' death. He was from the tribe of Ephraim. His story is told in the Old Testament book that bears his name. Joshua also appears in the Book of Exodus and the Book of Numbers.

The Book of Joshua describes Israel's conquest of Canaan as swift, ruthless, and complete. First, Joshua's army crossed the River Jordan and besieged Jericho. The walls of Jericho fell flat at the blast of the Israelites' trumpets. Israel then took all Canaan with three lightning-fast campaigns, killed the area's inhabitants, and divided the land among the 12 tribes of Israel. Joshua later united all Israel in a covenant with God.

The Book of Judges suggests that the Israelite conquest of Canaan was slower and less complete. Archaeological evidence places it in the 1200's B.C. and shows that much of the destruction may actually have been caused by Philistines or the internal struggles of Canaanites (see **Philistines; Canaanites**). Carole R. Fontaine

Joshua Tree National Park is in southern California near the town of Twentynine Palms. The park's desert plant life includes rare Joshua trees. According to legend, Mormon pioneers named the trees after the Biblical character. The trees rise as high as 40 feet (12 meters) and measure up to 14 feet (4.3 meters) in diameter. The park's animal life includes bighorn sheep, bobcats, cougars, coyotes, deer, desert tortoises, foxes, and rattlesnakes.

The area was established as Joshua Tree National Monument in 1936. In 1994, Joshua Tree was expanded and named a national park. For its area, see **National Park System** (table: National parks).

Critically reviewed by the National Park Service

See also **Tree** (picture: Joshua trees).

Josiah, *joh SY uh,* was one of the last and most unselfish rulers of Judah. He ruled from about 639 B.C. to 609 B.C. Josiah came to the throne at the age of 8, after his father, Amon, was killed. After 18 years, a scroll called "the book of the law" was found while the Temple was being repaired. This book was sent to Huldah, the prophetess, who authenticated it (II Kings 22). Josiah used the book as his guide for major religious reform. He stopped idolatry in Judah and reinstituted the feast of the Passover in Jerusalem. The main part of Deuteronomy may have come from "the book of the law."

During Josiah's rule, the sprawling Assyrian empire was collapsing. In 626 B.C., Babylonia broke away and established its freedom. Assyria soon became too weak to demand tribute from its many provinces. Under Josiah's rule, Judah also claimed independence.

An allied army of Babylonians and Medes captured Nineveh, the Assyrian capital, in 612 B.C. Pharaoh Necho II of Egypt then led his army into Palestine and Syria in 609 B.C. He met Josiah at Megiddo, and Josiah was fatally wounded in the ensuing battle. Carole R. Fontaine

Jouett, *JOO eht,* **Jack** (1754-1822), a Revolutionary War patriot, earned the nickname *Paul Revere of the South.* In 1781, he learned of a British plan to capture Thomas Jefferson, former governor of Virginia, and members of the Virginia legislature. Jouett rode more than 40 miles (64 kilometers) on horseback to warn them. Jefferson and all but seven legislators avoided capture. After the war, Jouett served in the Virginia assembly and the Kentucky legislature. He was born John Jouett in Albemarle County, Virginia. James Kirby Martin

Joule, *jool* or *jowl,* a unit in the metric system of measurement, is used to measure work or energy. Its symbol is J. One joule is the amount of work done when a force of 1 newton acts on an object that moves 1 meter in the direction of the force (see **Newton**).

The joule is used to measure all forms of energy, including heat, electrical energy, and mechanical energy. One joule equals about 0.239 *calorie.* A calorie is the amount of energy needed to raise the temperature of 1 gram of water by 1 Celsius degree. One joule of energy per second is required to pass an electric current of 1 ampere through 1 ohm resistance. One joule per second equals one *watt,* a unit of electric and mechanical power (see **Watt**).

In the inch-pound system of measurement customarily used in the United States, work or energy is measured in *foot-pounds.* One joule equals about 0.738 foot-pound. The joule was named for the British physicist James P. Joule. Hugh D. Young

Joule, *jool* or *jowl,* **James Prescott** (1818-1889), a British physicist, helped prove the law of conservation of energy. This law states that energy is neither created nor destroyed when it changes from one form to another. Joule's experiments demonstrated that energy seemingly lost is actually converted into heat. His results supported the theories of German physicists Hermann von Helmholtz and Julius Robert von Mayer, and British physicist Lord Kelvin.

In 1840, Joule discovered a mathematical relationship between the energy of an electric current and the amount of heat produced by that current. This relationship is known as Joule's law. In 1847, he announced the discovery of a similar relationship between mechanical energy and heat. The metric unit of work or energy, the *joule,* is named for him. Joule was born in Salford, England. Richard G. Olson

See also **Heat** (Learning about heat).

Journal. See **Diary.**



AP/Wide World

Reporters gather news of a fast-breaking political story at a press conference with a government official. An important event may be covered by journalists from many news organizations. Their stories are reported in newspapers and magazines and on radio and television.

Journalism

Journalism is the gathering, writing, and editing of material for news sources, such as newspapers and television. Journalism is one of the most important professions. It informs citizens about events in their community, their nation, and the world. The reports of journalists also help people form opinions about current affairs. Journalists inform the public through several means of communication, especially newspapers, magazines, radio, and television. These means of communication are often referred to as the *press* or the *news media*. Additionally, many journalists report news on the Internet, a worldwide network of computers.

Every day, journalists throughout the world gather, write, and edit material for thousands of news stories. Local reporters cover school board meetings, fires, sports events, and other local stories. National journalists report on the country's leaders. Foreign correspondents cover international news.

In democratic societies, people depend on the news media for the fair and truthful reporting of current events. Free nations grant the press freedom to report news and opinions without government interference. Freedom of the press encourages the exchange of ideas among citizens, which is essential for a democracy to work. In government-controlled societies, however, the news media presents chiefly news that supports the policies of the government.

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Fields of journalism

There are six chief fields of journalism: (1) newspapers, (2) news services, (3) magazines, (4) radio, (5) television, and (6) online journalism. Related fields include advertising, book publishing, and public relations. See **Advertising; Public relations;** and **Publishing.**

Newspapers cover more stories than do any of the other news media. They also cover stories in greater detail. However, newspapers cannot compete with radio or TV to be first to report the news. Radio and TV stations can interrupt their programs at any time to broadcast a news bulletin. A paper must be printed and distributed before it can bring a story to the public.

The great advantage of newspapers over radio and TV is that they can report stories in depth. Newspapers can provide such coverage for two chief reasons. (1) In most cases, a local paper has a larger staff than do the local radio and TV stations. (2) A newspaper devotes more space to reporting the news than a radio or television station provides air time for newscasts. For example, the

script of a half-hour newscast would fill only part of the front page of a standard-sized newspaper.

Newspapers also have other advantages over radio and television newscasts. Newspapers enable readers to absorb the news at their own pace and on their own schedule. Readers can skip items that do not interest them. Newspapers therefore are able to print certain material that appeals to only a small percentage of readers. Such material includes death notices, stock market listings, and want ads. For an extensive discussion of newspapers, see **Newspaper**.

News services. Large newspapers, national newsmagazines, and national radio and television networks have reporters stationed in major cities at home and abroad. The rest of the press relies chiefly on news services for national and international news. News services have journalists who report news from around the world. Their stories, as well as photographs, are transmitted mainly by satellite to members of the press that pay for the service. News services were formerly known as *wire services* because they sent news reports over wires to printing devices called *teletypewriters.* News services supply most of both the national and international news reported by the press.

Other news services include *news syndicates* and *feature syndicates.* The major news syndicates are owned by newspapers that have a large staff of reporters at home and abroad. The syndicate distributes to its clients many of the same stories that appear in its own paper. Feature syndicates are operated by business organizations that sell such material as advice columns, comic strips, and opinion columns. Wire services and news syndicates also supply feature material.

The chief news services in the United States are the Associated Press (AP) and United Press International (UPI). Important news services in other countries include Agence France-Presse in France, Xinhua in China, Kyodo in Japan, Reuters in the United Kingdom, and ITAR in Russia (called ITAR-TASS in its bureaus outside Russia). See **News service**.

Magazines, like newspapers, enable people to absorb the news at their own pace and to select only the stories that interest them. In general, the literary quality of magazines, which are published weekly or at longer intervals, is superior to that of newspapers. Weekly newsmagazines especially have gained wide popularity because they summarize and analyze the biggest news stories of the preceding week. The magazines also include regular articles on developments in the arts, business, education, science, and other fields.

Many magazines specialize in providing news or information related to a specific topic, such as fashion, television entertainment, or sports. Opinion magazines publish thoughtful articles on politics and the arts. Trade and business magazines provide news of a particular profession, business, or industry, such as medicine, banking, or publishing. For more information on the kinds of magazines and how they are produced, see **Magazine**.

Radio is generally the first of the news media to report a local story or a news service bulletin. A radio announcer can interrupt a program with a news flash as soon as the report comes in. Some stations present regular newscasts every half-hour or hour. A few stations broadcast the news continuously.

Millions of people depend on the radio for regularly scheduled newscasts. However, most radio newscasts do not report the news in detail. In a five-minute broadcast, for example, the stories average less than 30 seconds each. Many people also rely on radio for weather forecasts and traffic reports. See **Radio**.

Television is the chief source of news in many households around the world. TV does what none of the other media can—it brings the sights and sounds of important news events to the public by means of filmed, taped, or live reports. Like regular radio newscasts, daily TV news programs provide only brief accounts of relatively few stories. But the visual aspect of a TV news story can often help viewers understand the story. TV news may have difficulty, however, explaining in a brief period complex stories that do not lend themselves to visual presentation.

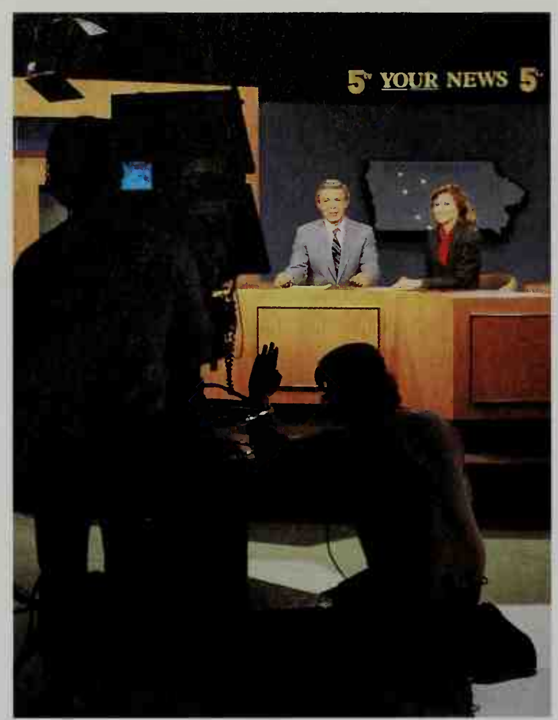
In addition to regular news coverage, television covers special news events. Coverage of such an event may replace many hours of regular TV shows. In November 1963, for example, the major U.S. networks canceled nearly four days of scheduled programs to cover live the story of President John F. Kennedy's assassination and funeral. Television has also presented live broadcasts of the first walk on the moon, various governmental hearings, and many other important events.

Cable TV, a rapidly growing part of the TV industry, offers a variety of news programs. Some cable channels run continuous news coverage. Others specialize in business, sports, government, or weather news. For further information on TV journalism, see **Television**.

Larry Day



The newsroom of a newspaper handles stories from throughout the world. Staff reporters cover most local events. National and international news comes in chiefly by wire service.



Larry Day

A television newscast presents the sights and sounds of news events by means of filmed, taped, or live reports. TV is the chief source of news for about two-thirds of all adult Americans.

Online journalism can deliver large volumes of news and commentary that can be received quickly all over the world. People can access this information via the World Wide Web, the part of the Internet that, in addition to text, includes illustrations, sound, and moving pictures. On many Web sites and in *newsgroups* (online discussion groups), readers can interact with reporters, commentators, or other readers.

Although much information distributed over the Web is reliable, some of it is biased or fictitious. Such unreliable material exists on the Web because Internet journalists often do not verify their sources when they rush to tell a story first. In addition, anyone who has access to the Internet can deliberately distribute false information. Rumors and gossip appearing on Web sites and in newsgroups often leave people unsure what to believe.

Online reporting and commentary ranges from "secret" tidbits about celebrities and gory details about local crimes to national and global events. Many journalistic Web sites are operated by established, dependable print or broadcast news organizations. Almost all the news on such a site comes directly from the organization that operates the Web site.

The role of journalism

In a free society, a journalist is able to perform most of his or her duties without government interference. These duties include (1) informing the public, (2) investigating wrongdoing, (3) influencing public opinion, and (4) entertaining the public.

Informing the public is the journalist's chief duty. Reporters represent the public at events that most people cannot observe themselves. Journalists therefore have an obligation to be accurate and to tell all sides of a story. They also have the responsibility of deciding which events have enough importance or news value to be reported. A free nation's citizens especially need good information about current political events to help them decide which candidates to vote for and whether to support certain government policies. Only through reliable reporting can people make intelligent decisions about how they want to be governed.

Many people, however, do not have the background knowledge or specialized information needed to understand complicated issues. For this reason, journalists not only report the news, but they also often explain and analyze it through *interpretive reporting.* In reporting on a speech by an international leader, for example, a journalist might analyze what effect the speech could have on the foreign policy of his or her country.

Investigating wrongdoing has become an increasingly important duty of journalism. Many news organizations feel a responsibility to safeguard the rights of citizens. These organizations do more than cover the news. Through *investigative reporting,* they search out and expose dishonesty in government, mismanagement of public funds, and unfair or illegal business practices. One of the most dramatic examples of investigative reporting occurred in the United States in the early 1970's, when the press played a major role in uncovering the Watergate scandal. This scandal led to the resignation of President Richard M. Nixon in 1974 (see **Watergate**).

Influencing public opinion. Through editorials, the management of a news organization expresses its views on current issues and attempts to convince the public of the same views. Many editorials encourage actions that a news organization believes will benefit a community or the nation. For example, an editorial might urge citizens to approve a school bond proposal or to vote for a certain candidate for public office. News organizations might also use editorials to fight for various social reforms. Such editorial campaigning is sometimes called *advocacy journalism* because it *advocates* (pleads for) certain causes. Many newspapers and magazines publish editorial cartoons.

The media also try to influence public opinion through *commentaries.* Commentaries reflect the opinions of individual journalists rather than those of the management of a newspaper, a magazine, or a radio or TV station. Many news organizations regularly publish or broadcast commentaries that differ with management editorials. This practice helps provide a balanced approach to issues.

Entertaining the public. Radio and television are primarily entertainment media. Newscasts are among the few kinds of radio and TV programs that are not broadcast chiefly for entertainment, though they often include amusing feature stories. Most newscasts concentrate on reporting the latest events, weather, and sports. Newspapers may include such entertainment material as comic strips; crossword puzzles; hobby and travel sections; humor columns; and reviews of books, motion pictures, and plays. Newsmagazines also include entertainment items. Many other magazines are devoted largely to entertainment.

Major issues in journalism

Restrictions on freedom of the press. Journalists in a free society argue that they have a right to gather news and to publish or broadcast any information they obtain. A country's government, on the other hand, prefers that certain information be withheld in the public interest. Such information might include material that could endanger the security of the nation or jeopardize a defendant's right to a fair trial.

Many conflicts between the press and the government must be settled in court. Court decisions have forbidden governments to censor material before it is published or broadcast. The courts have noted that although such *prior restraint* could prevent abuses by the press in some cases, it could also be used to prevent the media from reporting misconduct in government. The courts have therefore reasoned that prior restraint is nearly always too extreme a remedy for abuses by the press.

The news media may be brought into court, however, for publishing or broadcasting material that violates a court order. In addition, the press may be held responsible if it abuses the rights of private citizens. Journalists or news organizations may be sued for *libel* if they publish or broadcast false information that harms a person's reputation. News organizations are occasionally sued for invading the privacy of private citizens.

In general, the media act responsibly and do not purposely abuse their right of freedom of the press. News organizations may withhold information voluntarily if the government states that reporting the material might harm the public interest. However, the press and the government often differ over what information should be withheld, especially in the areas of national defense and international affairs. In most cases, the press argues that the right of the people to know about the actions of their government outweighs the benefits of maintaining secrecy. For this reason, the government often tries to keep what it considers "sensitive" information from the news media.

Protecting the identity of news sources. Journalists sometimes obtain "sensitive" material from government sources who believe the material should be made public. But these sources are afraid of losing their jobs if they are discovered. Therefore, they ask journalists to promise to keep their identity confidential. Reporters also use confidential sources in investigating organizations outside the government.

On occasion, journalists have been called as witnesses in trials and government investigations and ordered to reveal the identity of their confidential sources. In most cases, they have refused, rather than break their promise. They have also felt that they must protect their sources to assure other people who have confidential information that reporters can be trusted. Journalists argue that confidential sources are essential to investigative reporting and that many cases of wrongdoing would never be exposed without such sources. Some journalists have gone to jail rather than reveal the identity of a source.

Criticism of the press. Many people believe that the press often acts irresponsibly. For example, the press has been accused of political prejudice. The management of most news organizations is politically conservative, but many journalists tend to be liberal. Some people believe that the political views of management and journalists often influence what they decide to report and how they report it. But journalists believe that this mix of political views in news organizations helps keep news reports balanced and fair.

Critics have also accused the press of often creating a false impression of an event by emphasizing its sensational aspects. In addition, many people feel that the press sometimes produces its own "media events" by providing mass coverage of minor or insignificant stories. Critics also say that the press often invades the privacy of people struck by tragedy and is insensitive to their feelings.

During the late 1900's, many news organizations were purchased by corporations engaged in a variety of businesses. Such companies expect journalism to provide profits. Reporters are often told to avoid taking risks that might cost the company money or reduce its audience.

The size of a news organization's audience determines how much advertisers are willing to pay the organization for advertising space or time. In many countries, journalism depends heavily on advertising for its income. As a result, some news organizations refrain from publishing or broadcasting stories that might offend advertisers. In addition, some advertisers attempt to shape the news and information presented by an organization to suit the advertiser's needs and values. Such attempts occur most often in certain specialized magazines.

Competition among journalists often creates sensational news reports calculated to attract a large audience. Many critics charge that journalism increasingly emphasizes scandals, crimes, violence, and confrontations. Experts also worry that much of the news reported is inaccurate or biased. Cable television news channels that broadcast 24 hours a day require a constant flow of news and commentary. To meet this demand, they sometimes report facts that have not been verified. In efforts to keep up with the latest news, competing organizations often repeat the same unreliable information.

Journalism in free societies

In general, newspapers and magazines in free societies are privately owned. But in nearly every democracy except the United States, the government owns at least one radio and television network. In most cases, however, these networks have as much independence in presenting the news as do the private media. Privately owned radio and TV networks also operate in many free nations.

Some democracies, including Japan and Switzerland, do not allow prior censorship of news by the government. Many democracies, however, have established legal or informal limits on what the news media may publish or broadcast. For example, the Israeli government keeps tight controls over military news and other information that might endanger national security.

Journalism in government-controlled societies

In government-controlled societies, the news media have only as much freedom as the national leaders allow. The press exists to support the government and may publish or broadcast only what the government

wants the people to know. The media in these societies may be privately owned or state owned.

In Communist nations, the news media have traditionally been owned and operated by the state and have served mainly to convince the public of the virtues and achievements of government policy. But in the late 1980's, the Soviet Union and other Communist countries of Eastern Europe began to allow the press to operate more freely. By the early 1990's, the Communist governments had fallen in those countries, leading to even greater freedom of the press in many cases.

The governments of many countries in Africa and Asia have strict controls on the press. Journalists who criticize the government may be fined or imprisoned, and their news organizations may be closed. Censorship boards make sure that the news media follow government guidelines and support official policy. The boards may also require the press to publicize official notices issued by the government.

Government-controlled societies also restrict reporting by journalists from other countries. Foreign correspondents may be forbidden to interview certain government officials or to visit particular parts of the nation. The government may also censor their reports, and it may even expel journalists from the country.

History

The first newspapers were probably handwritten newssheets that governments posted in public places. The earliest known newssheet was the *Acta Diurna (Daily Events),* which began in Rome in 59 B.C. It reported the proceedings of the Roman Senate and such news as births and deaths. The first printed newspaper was a Chinese circular called *Dibao* (also spelled *Ti-pao).* It was printed around A.D. 700. The first regularly published printed newspaper in Europe was *Avisa Relation oder Zeitung* of Strasbourg, Germany. It started in 1609. A weekly newssheet founded in 1622 was the first paper regularly printed in England.

Early newspaper publishers had to obtain a government license for anything they wanted to print. In 1644, the English poet and political writer John Milton criticized such licensing in his pamphlet *Areopagitica.* This work was one of the earliest arguments for freedom of the press. England lifted its licensing system in 1695, and several other countries ended theirs in the 1700's. But certain restrictions on the press remained. For example, many countries tried to limit the number of people who could afford to publish newspapers by making them pay a heavy tax on each page they printed. As a result, publishers made their pages as large as possible to print more material for the same tax. By the 1800's, however, these taxes had been ended, and the press in many countries had considerable freedom.

Early American journalism. Before the 1700's, the American colonists relied on pamphlets, handwritten newsletters, English newspapers, and town criers for the news. In 1690, Benjamin Harris of Boston founded *Publick Occurrences Both Forreign and Domestick,* the first newspaper published in America. But the colonial government stopped it after one issue. In 1704, John Campbell established the *Boston News-Letter,* the first regularly published paper in the colonies.

John Peter Zenger founded the *New-York Weekly Journal* in 1733 and soon won a victory for a free press. In the paper, he criticized the royal governor of New York. The governor's council had Zenger arrested, and in 1735 he was tried for libel. The jury found Zenger not guilty after his attorney argued that Zenger had printed the truth and that truth is not libelous.

By 1765, the American Colonies had more than 20 newspapers. That year, the British Parliament passed the Stamp Act. The act required that special tax stamps be placed on all newspapers, legal documents, and various other written material. The colonists protested. Newspapers continued to publish without buying the stamps, and they supported the colonists. In 1766, Parliament repealed the law. But the newspapers remained a powerful force against British rule and helped propel the colonies toward the Revolutionary War in America (1775-1783).

The growth of U.S. newspapers was rapid during the 1800's. By 1830, the country had about 1,000 papers. But most of these papers concentrated on business or political news. They also sold for about 6 cents a copy—far more than working-class people could afford. In 1833, Benjamin H. Day founded the *New York Sun,* the first successful penny newspaper. The *Sun* attracted a large audience because of its low cost and its lively reports of fires, crimes, marriages, and other human-interest news.

Other penny papers soon appeared. The *New York Herald,* established by James Gordon Bennett in 1835, featured business stories, political essays, and local news. Horace Greeley started the *New York Tribune* in 1841. In addition to reporting the news, the *Tribune* published book reviews and poetry and ran editorials opposing slavery and supporting women's rights. Other penny papers included the *Philadelphia Public Ledger,* the *Baltimore Sun,* and the *Boston Daily Times.*

In 1848, six New York City newspapers—including the *Sun,* the *Herald,* and the *Tribune*—formed the Associated Press, the first major news service in the United States. The newspapers shared the cost of receiving news from telegraph agents throughout the nation and sold the reports to other papers. In the 1850's, papers from such cities as Boston, Chicago, Philadelphia, and St. Louis sent their own correspondents to report the news from Washington, D.C. During the American Civil War (1861-1865), Northern newspapers sent more than 100 reporters to cover the battles in the South.

The age of sensationalism lasted from the late 1800's to the early 1900's. During this period, American newspapers increasingly emphasized stories that dealt with crimes, disasters, and scandals. At the same time, however, the papers started reform campaigns by hunting out and exposing corruption in business and government. Magazines also began printing articles by reform writers, including Samuel Hopkins Adams, Lincoln Steffens, and Ida M. Tarbell. These writers, called *muckrakers,* published articles in such magazines as *Collier's, Everybody's,* and *McClure's.*

The leading newspapers of the period included the *New York Journal,* published by William Randolph Hearst, and the *New York World,* published by Joseph Pulitzer. These two papers became strong rivals in the battle for readers and led the press in sensationalism. The competition for readers sometimes resulted in inac-

curate, exaggerated reporting that came to be known as *yellow journalism.* The term is still used for this kind of reporting.

Another important publisher of the time, Edward Wyllis Scripps, established the first American newspaper chain. He founded or bought more than 30 papers from 1893 to 1926. Hearst also built a chain and owned 25 newspapers by 1937. Both Scripps and Hearst formed a wire service. Scripps organized United Press Associations in 1907, and Hearst established International News Service in 1909. In 1958, the services merged, forming United Press International.

In 1923, Henry R. Luce and an associate, Briton Hadden, established *Time,* the first newsweekly. *Time* became a leader in the trend toward interpretive reporting. Luce later founded a chain of specialized periodicals that included *Fortune,* a business publication; *Life,* a pictorial magazine; and *Sports Illustrated.* The success of Luce's magazines attracted a number of imitators. In 1933, for example, *Newsweek* began publication to compete with *Time.*

Radio journalism began in the United States in 1920, when station KDKA in Pittsburgh, Pennsylvania, broadcast the presidential election returns. During the 1920's, coverage of political and sports events became the most important type of public affairs broadcasting. Many regular news programs consisted merely of an announcer who read stories from newspapers or wire services.

In the 1930's, however, the radio networks hired many reporters from newspapers to gather and broadcast the news. By the start of World War II (1939-1945), the networks had an experienced staff of journalists. Leading newscasters included Gabriel Heatter, H. V. Kaltenborn, Edward R. Murrow, and Lowell Thomas. Murrow won fame for his on-the-scene broadcasts describing German bombing attacks on London.

Television journalism developed quickly after World War II, and many radio newscasters moved into TV news. The first television interview program, "Meet the Press," began in 1947. Nightly newscasts started in 1948. In the 1950's, TV began to increase its coverage of public affairs. For example, from 1951 to 1958, Murrow narrated a TV series called "See It Now." The programs in the series consisted of on-the-scene reports dealing with leading issues of the day. In 1954, television reporters covered the Army-McCarthy hearings, in which Senator Joseph R. McCarthy of Wisconsin accused the U.S. Army of "coddling Communists."

Television played a major role in the 1960 presidential campaign between John F. Kennedy and Richard M. Nixon. A nationwide audience watched as the men faced each other in the first televised debates between presidential candidates. In 1965, the launching of Early Bird, the first commercial communications satellite, made possible live broadcasts of news events between North America and Europe. Also in the mid-1960's, news programs began using color film.

Major improvements in broadcast technology continued during the 1970's. One of the most important advances in the field was the development of *minicams,* videotape cameras that weigh as little as 11 pounds (5 kilograms). Early videotape cameras were heavy and clumsy. As a result, news programs rarely used videotaped stories, even though tape, unlike film, does not have to be developed, and so its use can save time.

The development of minicams made videotape practical for use on daily newscasts. A story taped with a minicam can be broadcast minutes after a reporter delivers the tape to the TV station. In addition, minicams are often used with specially equipped mobile vans that can relay a story to the station as it happens.

Journalism today. By the late 1990's, the communications satellite had become an important tool of journalism. A communications satellite orbits the earth and relays radio, telegraph, telephone, and television signals. Communications satellites help journalists gather information and distribute news reports. They also enable television journalists to instantly report news events to their TV stations thousands of miles away. Many news services deliver reports to news organizations via communications satellite. Newspapers also use satellites to transmit images of their papers to printing plants.

Recent trends in U.S. journalism include a significant decrease in the number of daily newspapers and AM radio stations. At the same time, however, the number of FM radio stations and local cable television systems have experienced rapid growth. This growth has added thousands of new voices to the country's media.

Throughout the world, news-oriented Web sites and Internet newsgroups offer a huge volume and diversity of news and commentary at high speed. Traditional news organizations operate Web sites in addition to their regular news media. However, a few magazines, political commentators, and independent reporters appear exclusively online. Because there are ever-increasing news sources, many people are shifting away from print media.

Careers in journalism

Most jobs in the news media require a college degree. However, journalists disagree about the best course of study to follow. Some believe that students should get a bachelor's degree in journalism. Others recommend a four-year liberal arts program, perhaps followed with a master's degree in journalism. But almost all advise students to get experience on their college newspaper or at their college radio or television station.

Most journalists begin working at news organizations in small towns or in rural or suburban areas, and many of them have a lifetime career with such organizations. Others go on to jobs with big-city newspapers, the news services, newsmagazines, or large radio or TV stations. Journalists in the print media include columnists, copy editors, editorial cartoonists, editorial writers, feature writers, news editors, photojournalists, and reporters. The broadcast media hire journalists for such positions as assignment editors, commentators, correspondents, news directors, newscasters, newswriters, and producers. In general, the broadcast media offer lower salaries for starting positions than do the print media. Journalism training also provides a background for careers in advertising, book publishing, and public relations.

Richard A. Schwarzlose

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Bryant, William Cullen
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American publishers

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Editorial cartoonists

Block, Herbert L.
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Outline

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- A. Newspapers
- B. News services
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- D. Radio
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II. The role of journalism
- A. Informing the public
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VI. History

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Questions

What is the chief source of news for most adult Americans?
What advantages do newspapers have over broadcast media?
What were *muckrakers*?
Why do most journalists refuse to reveal the identity of their confidential sources?
What is the function of the press in government-controlled societies?
What is *yellow journalism*?
Why were news-gathering services such as the Associated Press and United Press International formerly called *wire services*?
How do news organizations in the United States protect the public interest?
What sources supply most of the national and international news reported by the U.S. press?
How are communications satellites used in journalism?

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Journeyman. See Apprentice; Guild.

Joust. See Knights and knighthood (Tournaments); Maryland (picture: Jousting).

Jove. See Jupiter.

Joyce, James (1882-1941), an Irish novelist, revolutionized the treatment of plot and characterization in fiction. Many critics consider William Shakespeare his only rival as a master of the English language.

Joyce was born in Dublin on Feb. 2, 1882. He wrote all his works about that city, though he lived outside Ireland from 1904 on. Joyce lived and wrote in Paris; Rome and Trieste, Italy; and Zurich, Switzerland, where he died on Jan. 13, 1941. He returned to Ireland only twice, briefly in 1909 and 1912. Joyce suffered a painful eye disease for most of his adult life and became almost blind despite many operations.

Joyce's first major work was *Dubliners* (1914), a collection of stories that reflects his concern with life among the Irish lower middle class. *A Portrait of the Artist as a Young Man* (1916) is a largely autobiographical novel. Joyce appears as the character Stephen Dedalus. Like Joyce, Stephen finds himself in conflict with his family, the Roman Catholic Church, and the nationalistic zeal of the Irish people. And like Joyce, Dedalus leaves Ireland and wishes to become a writer. In tracing Stephen's growth to young manhood, Joyce mixed conventional

realist prose with passages using techniques known as *interior monologue* and *stream of consciousness.* These techniques give the reader the illusion of following the character's thoughts.

Joyce lived in poverty and obscurity until 1922, when the publication of *Ulysses* made him one of the most celebrated novelists of the 1900's. *Ulysses* takes its title from parallels Joyce established between the adventures of his main character, Leopold Bloom, and those of Ulysses. Ulysses (Odysseus in Greek) was the hero of the *Odyssey,* a Greek epic poem. Bloom suffers ridicule because he is Jewish and has peculiar sexual tastes and because his wife, Molly, is unfaithful. He survives the pain and sorrow of his life by a remarkable capacity to absorb suffering—and even to enjoy it. *Ulysses* has had an enormous impact on modern world literature.

Finnegans Wake (1939) is probably Joyce's greatest work. In this novel, Joyce portrayed one family and at the same time all families, everywhere, at all times in history. The hero's initials, HCE, stand for Humphrey Chimpden Earwicker, a Dublin innkeeper. But they also stand for Here Comes Everybody. In the story, Dublin symbolizes all cities. Joyce crammed the book with topical and historical names, events, myths, songs, jokes, and gossip. His goal was to make all people, places, things, and times repeat and resemble each other.

Joyce's technique can be studied from the first sentence of *Finnegans Wake:* "riverrun, past Eve and Adam's, from swerve of shore to bend of bay, brings us by commodius vicus of recirculation back to Howth Castle and Environs." The book's last sentence breaks off in the middle but is completed by the book's first sentence. The device is a grammatical representation of the cyclic theory of history that Joyce borrowed from the Italian philosopher Giambattista Vico. The theory also provides the structure for *Finnegans Wake.*

The above sentence traces the flow of the River Liffey through Dublin, past the Church of Adam and Eve, out into Dublin Bay and the Irish Sea. From there, by evaporation and recirculation, the water returns to the physical starting point of the book, Howth Castle. The reference to Adam and Eve introduces a major theme of the book, the Fall of Man. In Irish-Gaelic, the river is called *Anna Liffey,* meaning *River of Life.* It becomes interchangeable with Joyce's major female character, Anna Livia Plurabelle. She symbolizes the mother of humanity.

Joyce's other works include two collections of poems, *Chamber Music* (1907) and *Pomes Penyeach* (1927); and a play, *Exiles* (1918). Lorraine Weir

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Joyner-Kersee, Jackie (1962-), an American athlete, became the first woman to win consecutive heptathlon championships at the Olympic Games. The heptathlon is a seven-event track and field competition. Joyner-Kersee won the Olympic heptathlon in 1988 and 1992, setting a world record of 7,291 points in the 1988 games. She had finished second in the heptathlon in the 1984 Olympics. Joyner-Kersee also won the Olympic long jump in 1988, setting an Olympic record of 24 feet $3\frac{1}{2}$ inches (7.40 meters). She finished third in the long jump in the 1992 and 1996 games. She retired in 2000.

Jacqueline Joyner was born in East St. Louis, Illinois, on March 3, 1962. She graduated from the University of California at Los Angeles (UCLA). In 1986, she married Bob Kersee, a UCLA track coach who became her personal coach. She published her autobiography, *A Kind of Grace,* in 1997. William F. Reed

Juan, Don. See **Don Juan**.

Juan Carlos I, *hwahn KAHR lohs* (1938-), is the king of Spain. He became king in 1975, after the death of Francisco Franco, the dictator of Spain. As king, Juan Carlos played an important role in a movement that changed Spain from a dictatorship to a democracy (see **Spain** [Political changes]).

Juan Carlos became Spain's first king in 44 years. His grandfather, Alfonso XIII, served as king of Spain from 1902 to 1931, when Spain became a republic. Alfonso died in 1941, and Don Juan—his son and Juan Carlos's father—claimed the Spanish throne. Franco, who had become dictator in 1939, rejected the claim. In 1969, he declared that after his retirement or death, Juan Carlos would become king of Spain.

Juan Carlos was born on Jan. 5, 1938, in Rome, where his parents were living in exile. Franco brought him to Spain in 1947 and supervised his education. Juan Carlos attended Spain's Military Academy, Naval School, Air Academy, and the University of Madrid. In 1962, he married Princess Sophia of Greece. Stanley G. Payne

Juan Diego, Saint (1474-1548), was the earliest saint of the Roman Catholic Church born in the Western Hemisphere. Juan Diego, a Mexican Indian, was *canonized* (declared a saint) by Pope John Paul II in 2002.

Juan Diego was probably born near present-day Mexico City. His Indian name was Cuauhtlatoatzin, which means "the talking eagle." In 1524 or 1525, Juan Diego converted to Christianity and was baptized, receiving his Christian name.

According to tradition, Juan Diego was hurrying over Tepeyac Hill in what is now Mexico City on Dec. 9, 1531, when he saw a vision of a beautiful woman wearing a blue mantle. She told him to ask the bishop to build a shrine where she stood. The bishop did not believe Juan Diego until his fourth vision, on December 12. After this vision, an image of the woman appeared on Juan Diego's cloak. The woman called herself the Virgin Mary. Honored as Our Lady of Guadalupe (also called the Virgin of Guadalupe), she is Mexico's patron saint. The cloak hangs in a frame at the altar of the Basilica of Our Lady of Guadalupe, built on the site of the visions.

After the visions, Juan Diego gave his business and his property to his uncle. He moved into a room attached to a chapel that housed the sacred image on his cloak. Robert P. Imbelli

See also **Guadalupe Day**.

Juan Fernández, *hwahn fuhr NAN duhs,* is the name of a group of three islands that lie about 400 miles (640 kilometers) west of Chile in the Pacific Ocean. These islands are part of Chile. They are Róbinson Crusoe, Santa Clara, and Alejandro Selkirk. The island group has an area of 56 square miles (144 square kilometers) and a population of less than 1,000. Most of the people fish for a living. The islands' waters are well known for the lobsters caught there.

Over 400 Spanish-speaking people live on Róbinson Crusoe, the largest island. It is famous as the island where Alexander Selkirk stayed alone for more than four years (1704-1709). The English writer Daniel Defoe partly based his *Robinson Crusoe* on Selkirk's adventures. Juan Fernández, a Spanish explorer, discovered the islands about 1563. Jerry R. Williams

See also **Robinson Crusoe.**

Juana Inés de la Cruz, *WAH nuh ee NAYS day lah KROOS* (1651-1695), was the greatest poet of the baroque movement in colonial Latin American literature. She was born on Nov. 12, 1651, near Mexico City with the given and family name of Juana Inés de Asbaje y Ramirez. She became a nun in 1667 and took her religious name. She is often called Sor (Sister) Juana. She lived in a convent in Mexico City from 1669 to 1695.

Sor Juana was one of the greatest intellectuals of her time and, as a child, amazed adults with her love of learning. She was regularly commissioned to write poetry commemorating important events in society. Using her vast knowledge of the arts and sciences, she wrote lyrical poetry and religious dramas among other writings. She is best known for poetry that explores human emotion from an intellectual perspective. One of her finest prose works was *Response to Sor Filotea de la Cruz* (1691), a brilliant defense of learning as a proper activity of women. The work is considered a landmark of feminist literature. Dick Gerdes

Juárez, *HWAHR ehz* (pop. 1,217,818), is Mexico's largest city on the border with the United States. It is on the Rio Grande, opposite El Paso, Texas (see **Mexico** [political map]). Its official name is Ciudad Juárez. Founded as El Paso del Norte in 1662, it was renamed in 1888 for President Benito Juárez (see **Juárez, Benito Pablo**).

For most of its history, Juárez was a quiet border-crossing town with a small population engaged in cattle raising and commerce. During the 1950's, the town began to grow. Developing industries were attracted to Juárez because of its location on the border with the United States. Today, Juárez is a major industrial center and an important gateway for travel and commerce between the two countries. James D. Riley

Juárez, *HWAHR ehz,* **Benito Pablo,** *bay NEE toh PAH bloh* (1806-1872), was one of the greatest Mexican political leaders. He began far-reaching economic and political reforms. Juárez also directed Mexican liberals in a civil war against conservatives and later led his country in a war for freedom from French control.

Juárez, a Zapotec Indian, was born on March 21, 1806. He was born and educated in the state of Oaxaca and practiced law there from 1834 to 1846. In 1847, he was elected governor and made Oaxaca a model state. Juárez joined the liberal movement, which sought constitutional government, reduction of military and clerical power, and redistribution of the church's huge landholdings. The dictator Santa Anna exiled him in 1853 (see **Santa Anna, Antonio López de**).

In 1855, Juárez returned to Mexico and became minister of justice. He had the famous Juárez Law enacted. This law reduced the power of the army and the clergy. Juárez led the liberals as their provisional president in a civil war against the conservatives and clergy known as the War of the Reform (1858-1860). When the liberals won, he was elected president of Mexico in 1861.

Juárez found the government in serious financial difficulty, and stopped payment on European loans for two years. The French used his action as an excuse to invade Mexico and install Archduke Maximilian as emperor. Juárez directed the war for freedom. In 1866, the United States virtually ordered the French out of Mexico. The French troops withdrew in 1866 and early 1867. Juárez's forces captured and executed Maximilian.

Juárez again became president in 1867. He separated church and state, established religious toleration, and altered the land system. In 1871, Juárez again ran for the presidency. No candidate received a clear majority at the polls. The Mexican congress decided the issue by electing Juárez. W. Dirk Raat

See also **Maximilian; Mexico** (Reform: The French invasion).

Additional resources

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Judah, *JOO duh,* in the Old Testament, was the fourth son of Jacob and Leah. His life story is told in Genesis 29 to 49. Judah kept his brother Joseph from being killed and suggested instead that Joseph be sold to the Ishmaelites as a slave. Phares, one of Judah's sons, is said to be an ancestor of the Messiah. See also **Joseph** (son of Jacob); **Judea.** Carole R. Fontaine

Judah, ancient country. See **Jews** (The divided kingdom; Foreign domination); **Judea.**

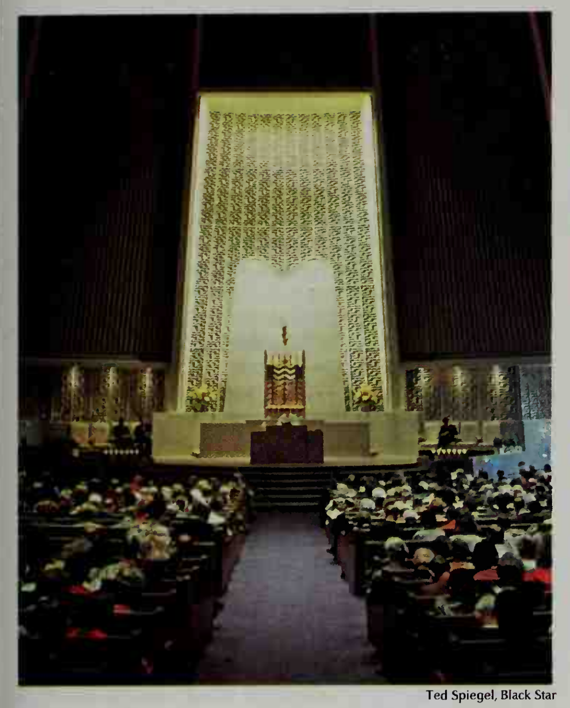
Judah Halevi. See **Halevi, Judah.**

Judah Maccabee, *JOO duh MAK uh bee,* was the leader of the Jews in their struggle for independence in the 100's B.C. He was the son of a priest named Mattathias from the ancient city of Modin. Judah's name is also spelled *Judas Maccabaeus.* His family is known as the Hasmoneans in the rabbinic texts. Judah's story is told in the Book of 1 Maccabees in the Apocrypha.

At that time, the Jews were subjects of the Seleucid Empire, one of the states formed out of Alexander the Great's empire. The Seleucid king, Antiochus IV (called Epiphanes), wanted his subjects to adopt Greek culture and customs. Many Jews did this, almost to the point of abandoning their religion. But others resisted.

Antiochus also wanted to get possession of the treasures in the Jews' Temple. In 168 or 167 B.C., angered by Jewish resistance to his policy, he entered Jerusalem, killed many of the people, and defiled the Temple by building an altar to a pagan god there. This is known as the Abomination of Desolation in the Gospels and in the Book of Daniel. The practice of Jewish law was forbidden, and copies of the law were destroyed. Jews who disobeyed were killed.

War broke out when an officer of the king came to Modin and tried to make Mattathias offer sacrifice to the pagan god. Mattathias refused. He fled to the hills, and although he died soon after, his son Judah took his place. Though outnumbered, he repeatedly defeated the king's armies. About 165 B.C., he reentered Jerusalem and purified and rededicated the Temple. The Jewish feast of Hanukkah commemorates this event (see **Hanukkah**). Judah won other victories, but in 160 B.C. he died in battle. His brothers, Jonathan and Simon, carried on. Gary G. Porton



Ted Spiegel, Black Star



Ted Spiegel, Black Star



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Jewish religious life includes worship, special ceremonies, and joyous festivals. Jews gather in their synagogue to worship on the Sabbath, *left.* A ceremony called a *bar mitzvah* marks a Jewish boy's acceptance into the adult Jewish community, *upper right.* A Jewish family celebrates the harvest festival of Sukkot by eating in a *sukkah,* a hut built specially for the festival, *lower right.*

Judaism, *JOO dee ihz uhm,* is the religion of the world's approximately 15 million Jews. It is the oldest major religion and the first religion to teach the belief in one God.

Unlike the other major religions, Judaism is the religion of only one people—the Jews. Both Christianity and Islam developed from Judaism. These religions accept the Jewish belief in one God and the moral teachings of the Hebrew Bible. The Hebrew Bible is what Christians call the Old Testament. The basic laws and teachings of Judaism come from the *Torah,* the first five books of the Hebrew Bible.

This article discusses the principal teachings and sacred writings of Judaism. It also tells about the chief branches of Judaism and the structure of organized Judaism. Finally, it describes Jewish worship, holidays, and customs. For information about the history of the Jewish people, see the *World Book* article **Jews.**

The teachings of Judaism

The most important teaching of Judaism is that there is one God, who wants people to do what is just and merciful. Judaism teaches that a person serves God by studying the scriptures and practicing what they teach. These teachings include both ritual practices and ethical laws. Judaism teaches that all people are created in the image of God and deserve to be treated with dignity and respect. Thus, moral and ethical teachings are as important in Judaism as teachings about God.

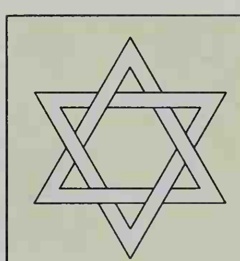
The covenant with God is a special agreement that Jews believe God made with Abraham, the ancestor of the Jewish people. According to the Bible, God promised to bless Abraham and his descendants if they worshiped and remained faithful to God. God renewed this covenant with Abraham's son Isaac and Isaac's son Jacob. Jacob was also called Israel, and so his descendants became known as the children of Israel or the Israelites. God later gave the Israelites the Ten Commandments and other laws through their leader, Moses. These laws explained how the Israelites should live their lives and build their community.

The Jews are sometimes called the *Chosen People,* meaning that they have special duties and responsibilities commanded by God. For example, the Jews must establish a just society and serve only God. Thus, the covenant assures the Jews of God's love and protection, but it also makes them accountable for their sins and shortcomings.

Unlike Christianity and many other religions throughout the world, Judaism does not actively try to convince others to adopt its beliefs and practices. However, under certain circumstances, it does accept people who choose to convert to Judaism.

The Messiah. Traditionally, Jews believed that God would send a Messiah to save them. The word *Messiah* comes from the Hebrew word *mashiah,* which means *the anointed one.* The Book of Isaiah describes the Messiah as a just ruler who will unite the Jewish people and lead them in God's way. The Messiah will correct wrongs and defeat the enemies of the people.

Many Jews still expect a Messiah to come. But others speak instead of a *Messianic age.* They believe a period



The Star of David is the symbol of Judaism and of Israel. It consists of two triangles that interlace and form a six-pointed star. In Hebrew, the symbol is called the *Magen David,* which means the *Shield of David.* The star appears on the flag of Israel.

of justice and peace will come through the cooperation of all people and the help of God.

The sacred writings of Judaism

Judaism has two major collections of sacred writings, the Bible and the Talmud. These works provide the basis for Judaism's beliefs and practices.

The Bible. The first five books of the Hebrew Bible make up the Torah, the most important of all Jewish scriptures. The Torah contains the basic laws of Judaism and describes the history of the Jews until the death of Moses in the 1200's B.C. According to Jewish tradition, Moses received and wrote down the word of God in the Torah, which is also called the *Five Books of Moses.* Today, however, many scholars believe that different parts of the Torah were passed down in several collections, which were later edited into the five books we have today. In addition to the Torah, the Hebrew Bible contains books of history and moral teachings called the *Prophets* and 11 other books called the *Writings.* See **Bible** (The Hebrew Bible).

The Talmud is a collection of legal, ritual, and ethical writings, as well as Jewish history and folklore. It serves primarily as a guide to the civil and religious laws of Judaism. Orthodox Jews believe the laws in the Talmud were an "oral Torah," which God gave Moses as an explanation of the written Torah. About A.D. 200, scholars wrote down these oral laws in a work called the *Mishnah.* Later scholars interpreted the Mishnah. Their comments were recorded in the *Gemara,* which was written between 200 and 500. The Mishnah and Gemara together make up the Talmud. See **Talmud**.

The branches of Judaism

Modern culture has posed challenges to traditional Jewish observance and faith. Jews have made a variety of responses to these challenges that have resulted in the division into several branches of Judaism. In the United States and Canada, the three main branches are (1) Orthodox Judaism, (2) Reform Judaism, and (3) Conservative Judaism. Each represents a wide range of beliefs and practices.

Orthodox Judaism continues traditional Jewish beliefs and ways of life. Orthodox Jews believe that God revealed the laws of the Torah and the Talmud directly to Moses on Mount Sinai. They strictly observe all traditional Jewish laws, including the dietary rules and the laws for keeping the Sabbath. Orthodox Jews pray three times daily—in the morning, in late afternoon, and after sunset. The men wear hats or skullcaps (*yarmulkas* or *kipot*) at all times as a sign of respect to God.

A kind of Orthodox Judaism known as Modern Orthodoxy attempts to combine the traditional way of life with participation in the general culture. Hasidic Orthodox Jews, in contrast, wear traditional Eastern European Jewish clothing and stress the joy of worshiping God and performing His commandments.

Reform Judaism began during the early 1800's. At that time, some Jews started to question the traditional teachings of how the sacred writings of Judaism came into being. For example, they considered the oral law a human creation rather than the revelation of God, and so its authority was weakened for them. These people, who founded Reform Judaism, claimed that Judaism is defined principally by the Bible.

Today, Reform Jews believe that moral and ethical teachings form the most important part of Judaism. Many feel that Judaism's ritual practices have no significance for them. They have discarded many traditional customs and ceremonies. However, Reform Jews are increasingly returning to traditional practices.

Conservative Judaism developed during the mid-1800's. Conservative Jews consider the Talmud as much an authority as the Bible. However, they believe that Jewish practice may be changed to fit the times. They believe that in this way, Judaism can remain relevant for each generation. The Conservative movement requires observance of most traditional Jewish laws and customs. The Reconstructionist movement, a smaller group that developed from the Conservative movement, stresses the cultural and community aspects of Judaism.

The structure of Judaism

Judaism has no one person as its head and no international body with authority over religious practices. Each local congregation chooses its own rabbi and manages its own affairs.

The synagogue is the Jewish house of worship and the center of Jewish education and community activities. A synagogue has a sanctuary where religious services are held. It may also include a school where children study Judaism, the Hebrew language, and Jewish history. Most synagogues have a social hall as well. Reform and Conservative synagogues are often called *temples.*

Most synagogues are constructed so that the worshipers face toward the holy city of Jerusalem during the service. At the front of the sanctuary stands the *ark,* a chest in which the scrolls of the Torah are kept. In front of the ark hangs the *eternal light,* an oil lamp whose constant flame symbolizes God's eternal presence.

The rabbi serves as spiritual leader, teacher, and interpreter of Jewish law. Traditionally, rabbis were chiefly teachers of the law. Today, rabbis also deliver sermons during worship services in the synagogue, give advice to people with problems, and perform other functions. A person who wants to become a rabbi must spend years studying Hebrew sacred writings and Jewish history, philosophy, and law. Most rabbinical students also study a wide range of nonreligious subjects. In the United States, Orthodox rabbis are trained at Yeshiva University and other rabbinical seminaries, Reform rabbis at the Hebrew Union College, and Conservative rabbis at the Jewish Theological Seminary of America.

The cantor chants the prayers during worship in the synagogue. The cantor is often a professional who has a trained voice and special knowledge of Hebrew and the

traditions of chanting. The cantor may also direct a choir and conduct religious education.

Worship in Judaism takes place in the home and the synagogue. Important parts of home worship include daily prayers, the lighting of the Sabbath candles, and the blessing of the wine and bread at the Sabbath meal. Jews also observe many holiday rituals at home.

Worship practices in the synagogue differ among the branches of Judaism and even within these groups. Orthodox and Conservative synagogues conduct services daily, but most Reform synagogues have services only on the Sabbath and holidays. In all Orthodox and some Conservative synagogues, at least 10 men must be present for a service to take place. This minimum number of participants is called a *minyan.* Any male who is at least 13 years old may lead the service. In most Conservative and Reform congregations, women may lead the service and be part of the minyan.

Synagogue worship consists mainly of readings from the Torah and the chanting of prayers from a prayer book called the *siddur.* A different portion of the Torah is read each week, so the entire Torah is completed in a year. In Orthodox synagogues, men and women sit separately and chant almost all the prayers in Hebrew. In Conservative and Reform congregations, men and women sit together, and much of the service is in the language of the country. Most Sabbath and holiday services include a sermon.

Holy days and festivals

The Sabbath in Judaism is the seventh day of the week, Saturday, which is a holy day of rest. The Sabbath begins at sundown on Friday and ends at nightfall Saturday, at the time when it is calculated that three stars can be seen in the evening sky. On the Sabbath, Jews attend worship services in the synagogue and have special meals at home. Orthodox Jews do not work, travel, or carry money on the Sabbath.

The High Holidays, called *Rosh Ha-Shanah* and *Yom Kippur,* are the most sacred days of the Jewish year. Like all Jewish holidays, they occur on different dates each year because they are based on the Hebrew calendar. The High Holidays come during *Tishri,* the first month of the Hebrew calendar, which usually falls in September or October. See **Calendar** (The Hebrew calendar).

Rosh Ha-Shanah, the Jewish New Year, begins on the first day of Tishri and lasts two days. It celebrates the creation of the world and God's rule over it. According to Jewish tradition, people are judged on Rosh Ha-Shanah for their deeds of the past year. The chief symbol is the *shofar,* a ram's horn that is sounded during the holiday worship. See **Rosh Ha-Shanah**.

Rosh Ha-Shanah begins the Ten Days of Penitence, which end on Yom Kippur, the Day of Atonement. On Yom Kippur, Jews fast and express their regret for bad deeds during the past year and their hope to perform good deeds in the coming year. The day is observed mainly through synagogue worship. See **Yom Kippur**.

The pilgrimage festivals. In ancient times, Jews were expected to make a pilgrimage to Jerusalem during three major festivals—*Passover, Shavuot,* and *Sukkot.* Each festival is associated with the Jews' escape from Egypt and their journey to Canaan (now Israel).

Passover, or Pesah, comes in March or April and celebrates the exodus of the Jews from Egypt. Jews observe Passover at home at a ceremonial feast called the *Seder* (see **Religion** [picture: Jews celebrate the Passover]). During the week of Passover, Jews eat an unleavened bread called *matzah.* Shavuot, or Pentecost, comes 50 days after the beginning of Passover and commemorates the giving of the Torah to the Jewish people on Mount Sinai. Many Reform congregations celebrate Shavuot by holding confirmation ceremonies as well. Sukkot is a harvest festival that begins five days after Yom Kippur. Jews build small huts for Sukkot as a reminder of the huts the Israelites lived in during their wandering in the wilderness. On the last day of this festival, called *Simhat Torah,* Jews celebrate the completion of the yearly reading of the Torah.

Other holidays commemorate major events in the history of the Jewish people. *Hanukkah,* or the Feast of Lights, is a celebration of God's deliverance of the Jews in 165 B.C. That year, the Jews won their first struggle for religious freedom by defeating the Syrians, who wanted them to give up Judaism. Hanukkah usually comes in December and is celebrated by the lighting of candles in a special Hanukkah branched candlestick called a *menorah. Purim* is a festive holiday in February or March that commemorates the rescue of the Jews of Persia (now Iran) from a plot to kill them. On Purim, Jews read the Book of Esther, which tells the story of this rescue. Judaism also has several fast days. The most important of these, *Tishah be-av* (the Ninth of Av), commemorates the destruction of the Temple in Jerusalem by the Babylonians in 586 B.C. and the Romans in A.D. 70.

Customs and ceremonies

Dietary laws. The Bible, chiefly in the books of Leviticus and Deuteronomy, commands that Jews follow certain dietary rules. Jews who observe these rules do not eat pork or shellfish, such as shrimp or oysters. They also store meat and milk products separately and do not serve them at the same meal. The dietary laws allow only meat that comes from a healthy animal killed by ritual slaughter called *shehitah.* This method of slaughter is designed to kill animals quickly and with as little pain as possible. The ritual must be performed by a specially trained slaughterer, who says a special blessing before killing the animal.

Food prepared in accordance with Jewish dietary laws is called *kosher,* which means *ritually correct* (see **Kosher**). Orthodox Jews consider these laws divine commandments and observe them strictly. Many other Jews observe the rules as a sign of their faith or simply as a means of maintaining their Jewish identity.

Special occasions. When a Jewish boy is 8 days old, he is circumcised as a symbol of the covenant God made with Abraham (see **Circumcision**). At the age of 13, a boy becomes a full member of the Jewish community. This event is celebrated in the synagogue with a ceremony called a *bar mitzvah.* Some Reform and Conservative synagogues have a similar ceremony for girls called a *bat mitzvah* or *bas mitzvah.* The young person reads from the Torah during the ceremony, which is followed by a social celebration.

A traditional Jewish marriage ceremony takes place under a *huppa,* a canopy that symbolizes the union of the bride and groom. If a marriage breaks up, the hus-

band must give the wife a writ of divorce called a *get.*

Jews observe special rituals in connection with death. Burial takes place as soon as possible, in most cases within a day after a death. After the funeral, the family enters a seven-day period of deep mourning called *Shiva.* The mourners recite the *Kaddish,* a prayer that praises God but does not mention death. On each anniversary of the death, the relatives observe a memorial called a *yahrzeit,* reciting the Kaddish and lighting a candle in memory of the person. Lawrence H. Schiffman

Related articles in *World Book* include:

Biographies

For Biblical figures, see the list of *Related articles* at the end of the Bible article. See also:

Akiva ben Joseph	Hillel I	Mendelssohn, Moses
Ba'al Shem Tov	Josephus, Flavius	Szold, Henrietta
Buber, Martin	Judah Maccabee	Wise, Isaac M.
Gamaliel	Maimonides, Moses	Wise, Stephen S.
Halevi, Judah		Zunz, Leopold
Herzl, Theodor		

Other related articles

Ark of the Covenant	Haskalah	Passover	Star of David
Bar mitzvah	High priest	Pharisees	Sukkot
Bat mitzvah	Holocaust	Purim	Synagogue
Bible (Books of the Hebrew Bible)	Israel (Religion)	Rabbi	Tabernacle
Cities of refuge	Jehovah	Religion	Talmud
Hanukkah	Jews	Rosh Ha-Shanah	Ten Commandments
Hasidism	Kabbalah	Sabbath	Tishah be-av
	Kosher	Sadducees	Western Wall
	Messiah	Shavuot	Yom Kippur
	Old Testament	Simhat Torah	

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Judas Iscariot, *JOO duhs ihs KAR ee uht,* was the apostle who betrayed Jesus Christ. The Gospel of Matthew reports that Judas received 30 pieces of silver for betraying Jesus. The betrayal occurred when Judas identified Jesus with a kiss. The Gospel of John emphasizes that Jesus knew Judas would betray Him.

Scholars have speculated about what information Judas gave authorities when he betrayed Jesus. Most assume that it was information telling where Jesus could be arrested. Judas's motives for the betrayal were, perhaps, greed (Matthew 26:14-16) or the influence of Satan (Luke 22:3-6 and John 13:2, 27).

There are two Biblical versions of Judas's death. The Gospel of Matthew reports that he returned the betrayal money and then hanged himself. The Acts of the Apostles tells that Judas bought a field with the money and then fell in the middle of it and died. Later tradition says that Judas hanged himself on the Judas tree, giving the tree its name. Some traditions attempt to present Judas favorably either by stating that he acted according to God's plan, or that he believed he could make Jesus prove He was the Messiah. Richard A. Edwards

See also **Potter's Field; Jesus Christ** (The Passion).

Judas Maccabaeus. See Judah Maccabee.

Judas tree. See Redbud.

Juddah. See Jidda.

Jude, *jood,* **Epistle of,** is a short letter that forms the 26th book of the New Testament. It is one of eight books called General Epistles because they are letters addressed to Christians in general. The Epistle of Jude is only 25 verses long. It was probably written shortly before or after A.D. 100. Its author attacks the false teachers who have arisen in the church and warns that God's judgment against them is certain. J. H. Charlesworth

Jude, *jood,* **Saint,** was one of the 12 apostles of Jesus Christ. Jude was one of the apostles who was listed in the Gospel of Luke as the son of James, or as the brother of James in some versions of the Bible. However, the lists in the Gospels of Matthew and Mark mention Thaddeus or Libbeus in place of Jude. Biblical scholars believe that Jude, Thaddeus, and Libbeus are all the same person.

Jude is sometimes known as Judas. However, he should not be confused with Judas Iscariot, the betrayer of Jesus, or with Jude (also called Juda or Judas), the brother of Jesus. Some scholars believe that he is the Judas mentioned in the Gospel of John. Many Biblical scholars believe that he is not the Jude who wrote the Epistle of Jude, which is the 26th book of the New Testament.

According to later tradition, Jude preached and died in Persia. He may have worked with the apostle Simon the Zealot. Jude is the patron saint of desperate causes. In the Roman Catholic Church, Jude shares a feast day with Simon the Zealot on October 28. Eastern Orthodox Churches celebrate Jude's feast day on June 19.

Richard A. Edwards

Judea, *joo DEE uh,* was the name of a country in southern Palestine in ancient times. Its people were called *Judeans.* The word *Jew* comes from this name. The area was originally named for the tribe of Judah that had settled there. Judea was mostly desert, but its people were able to produce olives, grapes, figs, citrus, and grain.

King David came from the Judean territory. He united all Israel into one kingdom and made Jerusalem its capital. After King Solomon died, the nation was divided into two kingdoms—Israel in the north, and Judah in the south. Jerusalem remained the capital of Judah. In 587 or 586 B.C., the Babylonians captured Jerusalem and exiled many Jews. The Persian emperor Cyrus allowed the Jews to return in 538 B.C. Judea gained independence under the Hasmonean dynasty in the 100's B.C., but became part of the Roman Empire in 63 B.C. The Jews revolted in A.D. 66, driving out the Romans for a brief time. But in 70, the Romans recaptured Jerusalem and destroyed the Temple, putting an end to Jewish rule in 73. A second Jewish revolt from 132 to 135 also failed. Jewish rule over the region did not resume until the founding of the modern state of Israel in 1948. Gary G. Porton

See also **Jews; Josiah; Palestine** (Roman rule); **Jesus Christ** (map: Jesus's life centered in Judea and Galilee).

Judge is an officer of the government who presides over a law court. The judges of high courts are called *justices* in the United States and in the United Kingdom.

A *trial judge* presides in the trial, or lower, court. Where a jury is used, the jury decides questions of fact. The judge decides all questions of law, including the rules that govern what evidence may be admitted. When

all the evidence has been heard, and the lawyers for both sides have addressed the jury, the judge *charges* the jury, telling it what rules of law apply to the case.

A jury is not always used. In some cases, the law requires a judge to decide on the facts. Or perhaps the parties do not want a jury to decide the case, as in technical questions of science or industry. In these cases, the judge decides based on fact and law.

An *appellate judge* hears appeals that question the accuracy of the trial judge's decisions on points of law. An appellate judge may reverse lower court decisions.

Judges in Australia and in the federal courts of the United States are appointed for life. Judges in Canada and the United Kingdom serve until retirement. Such appointments are intended to give judges independence from political considerations, and to encourage them to be fair and objective. Federal judges may be removed only by impeachment for serious misconduct. Some state judges are appointed under a similar system, but many are elected for long terms. Jack M. Kress

See also **Court; Impeachment; Recall; Sentence.**

Judge advocate general is the officer in charge of legal matters in the United States Army, Navy, or Air Force. This officer holds the rank of major general in the Air Force or Army, and the rank of rear admiral in the Navy. Each judge advocate general serves as legal adviser to the chief of staff of the individual service and, in some cases, to the secretary of the Department of Defense. Their offices provide legal services of all types to the military community. These services include prosecuting, defending, and reviewing courts-martial and offering legal assistance. Other services include working with officials of the local civilian community on matters of common legal interest. Robert C. Mueller

Judges, Book of, is a book of the Bible that describes the history of the tribes of Israel from about the 1100's to the 900's B.C. The Book of Judges tells the stories of leaders of ancient Israel called *judges.* These leaders were not necessarily judges in the sense of people who make legal decisions. According to the Bible, the judges were people whom God called to lead the Israelites at critical times. Several judges were military leaders who saved the Israelites from their enemies.

The Book of Judges contains hero stories, folk tales, tribal records, religious judgments, and fragments of historical writings. Many of these sources are as old as the period of the judges. The book consists of three parts. The first part (1:1-3:6) describes Israel's conquest of Canaan, an area later known as Palestine, and gives a general description and interpretation of the judges. The second section (3:7-16:31) tells the stories of the judges, including such famous Biblical figures as Deborah, Gideon, and Samson. The final section (17:1-21:25) tells about the problems of two ancient tribes of Israel—the Danites and the Benjamites. Carol L. Meyers

See also **Deborah; Gideon; Samson; Bible** (Books of the Hebrew Bible).

Judgment, in law, is the decision of a court. It may be a conclusion based upon evidence developed at trial. A *judgment by default* is given by a court when the case is not defended by the defendant. When the defendant admits the claim or charge, the court hands down a *confessed judgment.* A judgment becomes, for the time, the law governing the particular case before the court. But judgments may be set aside or reversed by higher courts. In some states and provinces, a judgment of money due becomes a *lien* upon the debtor's real estate. See also **Debt; Lien.** John C. Baird

Judicial Conference of the United States is the principal administrative body of the U.S. judicial system. It studies the procedures of the federal courts and recommends policy changes. The 27-member Judicial Conference also examines the workload of each federal judicial circuit and district. It may recommend the transfer of judges to circuits or districts that have the heaviest workloads or recommend the creation of new judgeships. The group also handles complaints about federal judges who engage in misconduct or who are unable to perform their duties properly.

The Judicial Conference meets twice a year. Once a year, it gives Congress its recommendations for changes in federal rules. If the changes are approved by the Supreme Court, they take effect after 90 days unless Congress rejects them during that period.

The chief justice of the United States is chairman of the Judicial Conference. Other members are the chief judge of each of the 13 federal judicial circuits and a district court judge from 12 of the circuits. The chief judge of the United States Court of International Trade also serves. Congress established the Judicial Conference in 1922. Sheldon Goldman

Judicial Department. See **Justice, Department of; Supreme Court of the United States; Constitution of the United States** (Article III).

Judicial review in the broadest sense refers to the power of a court to strike down any legislative or executive action that it finds in violation of a nation's constitution or other law. In its narrowest sense, judicial review refers to a court's power to declare laws unconstitutional. For example, if the United States Congress were to pass a law forbidding criticism of public officials, a court would find that the law violates the right of freedom of speech set forth in the First Amendment of the Constitution. By *invalidating* (striking down) the law, the court would be exercising the power of judicial review. Constitutional democracies worldwide accept the judicial review process. Most constitutions written since World War II (1939-1945) specifically provide for some form of judicial review.

The Supreme Court of the United States established the power of judicial review in the case of *Marbury v. Madison* (1803). The case marked the first time the Supreme Court declared an act of Congress unconstitutional. Chief Justice John Marshall reasoned that the judicial branch must have the authority (1) to issue authoritative interpretations of the Constitution; (2) to decide whether an act of the legislative branch violates the Constitution; and (3) to declare any such act unconstitutional.

Many cases of judicial review resemble the *Marbury* case itself, in that courts specifically determine a law's consistency with a nation's constitution. In other cases, courts determine the validity of rules and regulations made by executive agencies. In such complex areas as tax law and environmental protection, for example, legislators may lack the time or the technical expertise to legislate every detail of the necessary rules. Therefore, governments often call upon expert agencies—such as the Internal Revenue Service or the Environmental Pro-

tection Agency, in the United States—to develop and enforce detailed rules and regulations. Judicial review in this context ensures that agencies stay within the boundaries set by the relevant legislation.

Disputes regarding the proper use of judicial review continue today. When used properly, judicial review ensures that a nation's constitution and other laws are honored not just in theory but also in practice. But if courts exercise this power too aggressively, they may interfere inappropriately with lawmaking processes reserved for elected legislators, or with regulatory functions assigned to expert executive agencies. David G. Noren

See also **Constitution; Constitution of the United States** (Court decisions); **Marbury v. Madison; Marshall, John; Supreme Court of the United States** (Authority of the Supreme Court).

Judith is the heroine of the Book of Judith, one of the Apocryphal books of the Old Testament. The book was probably composed between 107 B.C. and 78 B.C. The Assyrian general Holofernes attacked the Jews and laid siege to the town of Bethulia. The Jews were in despair, but Judith saved them. She went to Holofernes, and her beauty won his favor. On their third night together, she cut off his head while he was asleep. As a result, his forces fled. Gary G. Porton

Judo is a sport in which a person uses balance, leverage, and timing to pin or throw an opponent. Judo developed from an ancient Japanese method of unarmed combat called *jujutsu,* also spelled *jujitsu.*

Judo ranks as a major sport in Europe, Japan, and the United States. Judo is taught at colleges, high schools, military bases, private clubs, YMCA's, and YWCA's.

The Japanese word *judo* means *the gentle way.* Many judo techniques depend on a contestant's yielding to an opponent's attack until the right moment to strike back. For example, a contestant does not resist if shoved by an opponent. The shover leans forward and goes off balance at least a little and so can easily be thrown down. With such "gentle" methods, a skilled person can often defeat a heavier, stronger opponent. However, many judo techniques require considerable strength. The best judo competitors are usually very strong.

Learning judo. People learn judo for exercise, relaxation, and self-protection. Children as young as 6 can learn the sport. Practice and good instruction are more important than a person's age, size, strength, or weight.

Judo training takes place in a gymnasium called a *dojo.* Mats cover the floor. Judo contestants wear a pajamalike costume called a *judogi,* which consists of a white cotton jacket and pants and a colored belt. They compete in bare feet.

Many beginning courses consist of 36 hours of instruction during a 12-week period. Judo students, called *judoka,* begin by learning to fall safely. They also do exercises to strengthen the muscles used in judo. After learning to fall in all directions and from all positions without injuring themselves, the judoka practice other techniques. Most beginners learn a foot sweep, hip throw, rear throw, shoulder throw, and some hand techniques. Judoka also learn the Japanese names for these movements and other judo terms. In addition, they practice judo etiquette, including ceremonial bows and proper ways of sitting on the mats.

Belts of various colors signify ranks of judo achievement. The United States Judo Federation (USJF) officially recognizes three belt ranks—white, brown, and black. Beginners wear white, intermediate competitors wear brown, and experts wear black. In addition, each color rank consists of various degrees of achievement. Many clubs award other colors, such as green or yellow, for the degrees within the white-belt rank.

Judo techniques may be divided into three groups: (1) *nagewaza,* techniques of throwing; (2) *katamewaza,* techniques of choking and holding; and (3) *atemiwaza,* techniques of striking.

Nagewaza includes dozens of basic throws classified by the part of the body used. They include hand throws, hip throws, leg sweeps, and side and back throws.

Katamewaza includes on-the-mat methods of choking, holding, and pinning. Judo rules allow only players



Gary M. Prior, Allsport



© Mike Hewitt, Allsport

Judo is a sport in which an individual tries to throw or pin an opponent. Judo matches take place on mats in judo halls. Participants are barefoot and wear white trousers and jackets. These men competing in the Summer Olympic Games are executing the judo throwing technique called *nagewaza.*

at least 13 years old to use choking techniques. Special rules govern the use of elbow locks in judo competition.

Atemiwaza includes techniques of kicking or striking various parts of the body to cause injury, paralysis, or even death. These methods are used only in self-defense, never in contests.

Judo contests. There are two kinds of judo competition, *kata* and *randori.* In kata, the contestants perform judo techniques in a specific order. They are judged on style and precision. In randori, or free competition, the contestants use any technique they wish. Contestants are grouped by age, rank, or weight.

A referee and two judges watch most judo matches to make sure contestants follow the rules. To start a match, contestants bow to each other. Then, at the referee's command, they grasp each other's jacket lapel and sleeve in a certain manner. The referee starts and stops the match, which lasts from 3 to 7 minutes. The referee enforces rules and awards points for the correct performance of techniques. A contestant wins the match by scoring one point or two half-points. For example, a contestant can score a point by throwing an opponent or by pinning an opponent for 30 seconds. A contestant can also win by using an elbow lock or choking method to force an opponent to give up. If no one scores a point, the referee and judges decide the winner.

History. Judo developed from jujutsu, an ancient form of self-defense practiced by the Japanese warrior class called *samurai.* Jujutsu included such techniques as choking, kicking, and twisting an opponent's arm. Many of these methods could cripple or kill.

In 1882, Jigoro Kano, a Japanese educator, began to select techniques from many jujutsu schools. He chose techniques suitable to an art and sport that could be performed safely, based on the concept of *ju* (gentleness). He adopted jujutsu's safest techniques and eliminated the rough, dangerous ones. He looked upon judo as an art, a mental discipline, and a sport which could be used as a means of education. Kano emphasized two slogans: "Maximum Efficiency with Minimum Effort" and "Mutual Welfare and Benefit."

Judo grew in popularity and, in the early 1900's, became a required subject in Japanese schools. Kano also demonstrated the sport in other countries. President Theodore Roosevelt became one of the first judoka in the United States. He eventually earned a brown belt.

After World War II ended in 1945, judo began its greatest period of growth in the United States. Judo gained international recognition in 1964 when men's competition became part of the Olympic Games. Women began competing in 1992. Paul Crompton

See also **Olympic Games** (table).

Additional resources

Inokuma, Isao, and Sato, Nobuyuki. *Best Judo.* 1979. Reprint. Kodansha, 1987.
Seisenbacher, Peter, and Kerr, George. *Modern Judo.* 1991. Reprint. Crowood, 1997.

Judson, Adoniram, *AD oh NY ruhm* (1788-1850), a Baptist clergyman, was largely responsible for the founding of the first American Congregationalist and Baptist foreign missionary societies. He was the pioneer American missionary to Burma (now Myanmar).

Judson was born on Aug. 9, 1788, in Malden, Massachusetts, the son of a Congregational minister. He graduated from Brown University and Andover Seminary. His interest in missionary work in the Far East resulted in the organization of a Congregationalist missionary society. The society sent him to India after his ordination in 1812. But Judson soon left the Congregationalist church, deciding he disagreed with its practice of infant baptism. He offered to serve the American Baptists, who then organized a foreign missionary society. In 1813, he began working in Burma. He had written a Burmese grammar and baptized his first convert by 1819. He completed the Burmese Bible in 1834 and finished an English-Burmese dictionary in 1849. Henry Warner Bowden

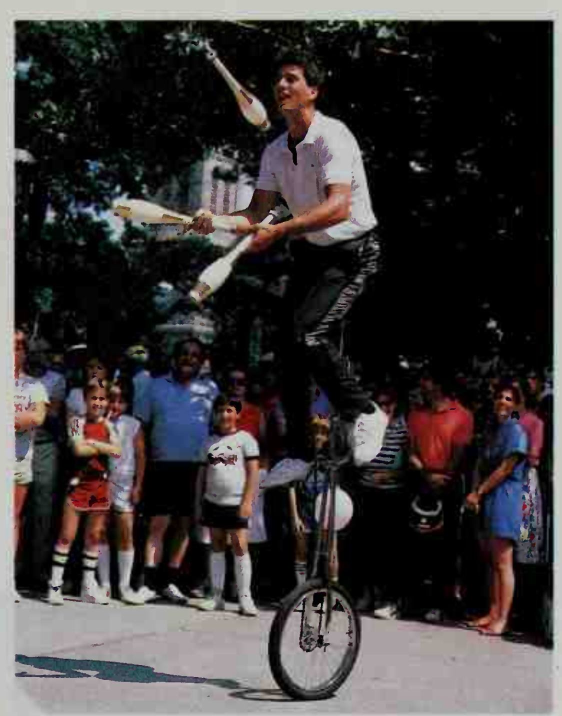
Juggernaut, *JUHG uhr nawt,* is a famous wooden image of the Hindu god Krishna. It is housed in a decorative temple in Puri on the northeast coast of India. The large image is named *Jagannath,* a Sanskrit word that means *Lord of the World.* The elaborate forms of worship and the festivals celebrated at the Jagannath temple are known throughout India.



© Bernard Pierre Wolff, Photo Researchers

The juggernaut is an image of the Hindu god Krishna mounted on a huge cart. It is displayed during festivals in Puri, India, flanked by carts bearing images of Krishna's brother and sister.

In English, *juggernaut* refers to a huge or powerful object or task, or threatening force. The word comes from an annual festival in which the image of Krishna is placed on a huge, brightly decorated cart 45 feet (14 meters) high. The cart has 16 wheels 7 feet (2.1 meters) in diameter. Hundreds of worshipers pull it through the city by means of long, thick ropes. According to legend, some worshipers have thrown themselves before the wheels to be crushed to death. During this parade, Jagannath is accompanied by images of Krishna's brother Balabhadra and his sister Subhadra, riding in separate carts. The three deities are a popular subject in Indian art. Anantavarman Choda Ganga, an Indian king, commissioned the temple in the 1100's. David L. Haberman


E. R. Degginger
A skillful juggler entertains a crowd by juggling several Indian clubs while balancing himself on a unicycle.

Juggling is throwing and catching more than one object in one hand, or three or more objects in two hands. Jugglers most often use balls, hoops, or clubs shaped like bowling pins.

The world's best jugglers can briefly throw and catch as many as 10 balls, 12 hoops, or 7 clubs. Jugglers can keep a pattern going for a longer time, but only with fewer items. To do so, jugglers throw one object into the air as they are about to catch another. They keep their eyes on the top of the arc of each throw to establish the necessary timing. There are several other forms of juggling. One of these is spinning a ball. Another is balancing an object, such as a stick or a ball, on a part of the body.

Ancient Egyptian tomb paintings show people juggling. In the Middle Ages, court jesters juggled. American and European vaudeville performers of the early 1900's also used juggling in their acts. Juggling is also taught as a physical education skill to develop hand-eye coordination. The International Jugglers Association was formed in 1947.

Critically reviewed by the International Jugglers Association

Jugoslavia. See Yugoslavia.

Jugular vein, *JUHG yuh luhr,* is the name of each of four large veins that return blood to the heart from the head and neck. The veins get their name from the Latin word *jugulus,* which means *collarbone.*

There are two jugular veins on each side of the neck, known as the *external* and *internal* jugulars. The external jugulars lie close to the surface and carry blood from the outside parts of the head and neck to the heart. The internal jugulars lie deeper and carry blood from the deeper tissues of the neck and from the interior of the skull. The internal jugular veins are much larger than the external jugular veins and are the ones commonly referred to. Opening an internal jugular vein usually proves fatal, because of the rapid loss of blood.

Dominick Sabatino

Juilliard, *JOOL ih ahrd,* **Augustus** (1836-1919), an American merchant, financier, and philanthropist, was an outstanding patron of music. He grew wealthy in the textile business. He gave time and money to cultural enterprises. He served as president of the Metropolitan Opera Company from 1892 until his death, and left his fortune to the Juilliard Musical Foundation (see **Juilliard School**).

Juilliard was born at sea to French immigrants. He grew up near Canton, Ohio, and later settled in New York City. John H. Baron

Juilliard Musical Foundation, *JOOL ih ahrd,* supports the Juilliard School in New York City. It was established in 1920 under the terms of the will of Augustus Juilliard, a wealthy textile merchant. The Juilliard Musical Foundation has offices at the Lincoln Center for the Performing Arts in New York.

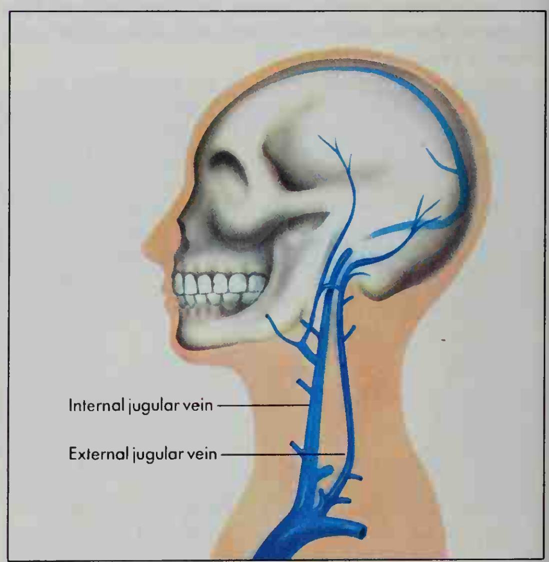
Critically reviewed by the Juilliard School

Juilliard School, *JOOL ih ahrd,* in New York City, is a leading school for the performing arts. Courses of study include music, dance, and drama. The school was established in 1905. It formerly consisted of the Juilliard Graduate School and the Institute of Musical Art. These two schools merged in 1946. The Juilliard School is a member of the Lincoln Center for the Performing Arts.

Critically reviewed by the Juilliard School

Jujutsu, or jujitsu. See **Judo**.

Julian (A.D. 331-363) was the last Roman emperor to oppose Christianity. He became known as *The Apostate* (the traitor). Julian was a nephew of Constantine I, the emperor who legalized Christianity in A.D. 313. Julian



WORLD BOOK illustration by Charles Wellek
The jugular veins—two on each side of the head and neck—return blood to the heart. The *external jugulars* drain surface regions, and the *internal jugulars* carry blood from deeper tissues.

was born in Constantinople. He received a Christian education but secretly rejected Christian beliefs. In 355, his cousin, Emperor Constantius II, made Julian the *caesar* (ruler) and defender of Gaul. There, Julian distinguished himself, and his troops proclaimed him emperor in 361. Civil war almost resulted, but Constantius died that year.

As emperor, Julian tried to halt the growth of Christianity by strengthening the Roman religion and prohibiting Christians from teaching in the schools. He also tried to end corruption in government and restore prosperity during his 18-month reign. He died fighting the Persians in Mesopotamia. Julian's death ended serious opposition to Christianity in the Roman Empire. Clive Foss

Julian, *JOOL yuhn,* **Percy Lavon** (1899-1975), was an American chemist and business executive. He developed synthetic drugs that are duplicates of substances produced in the human body. He also founded companies that developed, produced, and sold drugs. Julian held more than 100 patents.

In 1935, Julian discovered a way to make synthetic *physostigmine,* a compound found in the Calabar bean, the poisonous seed of an African plant. Doctors use that drug to treat *glaucoma,* an eye disease. Julian made many products from soybean oil. He used one of them in a synthetic *progesterone* that he developed as a commercial product in 1940. Progesterone, which is produced in the human body, regulates reproductive functions. In 1948, Julian developed the first commercially successful synthetic *cortisone,* another substance produced in the human body. Physicians use cortisone to treat arthritis and many other diseases.



Julian Research Institute

Percy L. Julian

Julian founded Julian Laboratories in 1954 to develop drugs. In 1961, he sold that company but remained its president. Three years later, he left to found a manufacturing company and a research institute.

Julian was born on April 11, 1899, in Montgomery, Alabama, the grandson of slaves. He graduated from DePauw University in Indiana in 1920, received an M.A. degree from Harvard University in 1923, and obtained a Ph.D. degree from the University of Vienna in Austria in 1931. Julian died on April 19, 1975. Martin D. Saltzman

Julian calendar, *JOOL yuhn,* was devised in 46 B.C. by the order of Julius Caesar. Before then, the Roman religious officials had distorted the calendar so that it differed from the solar year by three months. The Julian calendar divided the year into 12 months alternating from 30 to 31 days, except February which had 29. Every four years February was to have 30 days. To readjust the calendar, three months were added to the year 46 B.C., making it 15 months long. The first "Julian year" then began on Jan. 1, 45 B.C.

Caesar made Quintilis—the month of his birth—a 31-day month. The Roman Senate renamed it *Julius* (now July) in his honor. To honor the emperor Augustus, the Senate later made August 31 days long by taking a day from February. The Julian year of 365 $\frac{1}{4}$ days was 11 minutes and 14 seconds longer than the solar year. By 1580, the calendar was 10 days off. Two years later, in 1582, Pope Gregory XIII corrected the calendar with the newly developed Gregorian calendar. James Jespersen

See also **Calendar; Gregorian calendar.**

Juliana, *joo lee AN uh* (1909-), was the queen of the Netherlands from 1948 to 1980. She was born on April 30, 1909, in The Hague. From early childhood, she was trained to succeed her mother, Queen Wilhelmina. As a young girl, Princess Juliana attended classes daily at the palace. Later, she attended Leiden University and received an honorary degree.

Juliana was made a member of the Council of State when she came of age on her 18th birthday. In 1937, she married Prince Bernhard of Lippe-Biesterfeld. Because German troops occupied the Netherlands during World War II, Juliana and her daughters lived in Canada from 1940 to 1945. Her third child was born there in 1943. See **Ottawa** (Annual events).



Keystone

Queen Juliana

In September 1948, Queen Wilhelmina abdicated because of ill health, and Juliana became queen, after ruling as regent for several months. She succeeded to the monarchy in a ceremony known as *investiture* in the Netherlands. She abdicated in 1980 at the age of 71. Her daughter Beatrix succeeded her.

Jan de Vries

Julius II (1443-1513) was the most vigorous and forceful of all the Renaissance popes. He was elected pope in 1503 and immediately became a strong defender of papal temporal power and undertook vast projects to beautify Rome. He resorted to war to achieve his goals.

Julius was born in Albissola, Italy, near Savona. His given and family name was Giuliano della Rovere. His uncle, Pope Sixtus IV, named him a cardinal in 1471. As a cardinal, he was influential in papal politics and opposed Alexander VI, the pope from the powerful Borgia family. After his election, Julius sought to regain the Papal States occupied by Cesare Borgia and other Italian powers, chiefly Venice (see **Papal States**). Julius led armies in the conquest of Perugia and Bologna, and in 1509 joined the League of Cambrai against Venice.

Julius's artistic projects were the most enduring aspect of his papacy. He was one of the greatest Renaissance patrons of the arts. He commissioned the architect Donato Bramante to design the new St. Peter's Basilica. Julius attended the laying of the foundation stone in 1506. He commissioned the artist Michelangelo to carve his tomb and to decorate the Sistine Chapel with frescoes. He also employed the artist Raphael to work in the Vatican apartments, painting such masterpieces as the *School of Athens.* Charles L. Stinger

See also **Michelangelo; Pope** (Renaissance and Reformation); **Raphael.**

Julius Caesar. See Caesar, Julius.

July is the seventh month of the year, according to the Gregorian calendar, which most of the world uses today. It was the fifth month in the early calendar of the ancient Romans. The Romans called the month *Quintilis,* which means *fifth.* Later, the Romans moved the beginning of the year to January 1 but did not change the names of the months. The Roman statesman Julius Caesar was born during Quintilis. In 46 B.C., Caesar gave this month 31 days. The Roman Senate renamed the month *Julius* in honor of Caesar.

Many countries celebrate their national independence in July. In the United States, Independence Day is celebrated on July 4. On that day in 1776, the Continental Congress adopted the Declaration of Independence. In France, a similar holiday, Bastille Day, occurs on July 14.

Some people celebrate the harvest in July. In Barbados, the Crop Over festival runs through July. This festival originated when the growing of sugar cane was a large part of life in that country. When the harvest ended, farmworkers celebrated the crop's being "over."

Many Japanese honor their ancestors during the Bon Festival (Festival of Souls) from July 13-15. July 12 is Orangemen's Day in Northern Ireland. England's King William III (William of Orange) won the Battle of the Boyne in July of 1690. Rastafarians honor the birth of Haile Selassie I on the 23rd of the month.

Important July events

1 Dominion Day, Canada.
— George Sand, French novelist, born 1804.
— Battle of Gettysburg, American Civil War, began 1863.
— Louis Blériot, French aviator, born 1872.
— American troops occupied San Juan Hill in the Spanish-American War, 1898.
— Battle of the Somme in World War I began, 1916.
— Hong Kong reunited with China after 99 years as a British overseas territory, 1997.
2 Christoph Gluck, German composer, born 1714.
— Sir William Bragg, English physicist, born 1862.
— United States President James Garfield shot, 1881.
— Sherman Antitrust Act passed in United States, 1890.
— Thurgood Marshall, first black justice of the Supreme Court of the United States, born 1908.
3 Quebec founded by Samuel de Champlain, French explorer, 1608.
— Robert Adam, Scottish furniture designer, born 1728.
— John S. Copley, American painter, born 1738.
— Henry Grattan, Irish statesman, born 1746.
— Idaho became the 43rd U.S. state, 1890.
4 Independence Day, United States; Continental Congress adopted the Declaration of Independence, and John Hancock signed it, 1776.
— Nathaniel Hawthorne, American author, born 1804.
— Giuseppe Garibaldi, Italian patriot, born 1807.
— Stephen Foster, American songwriter, born 1826.
— Confederate Army surrendered Vicksburg to the Union Army, American Civil War, 1863.
— Calvin Coolidge, 30th U.S. president, born 1872.
— First Pacific cable, between San Francisco and Manila, opened by U.S. President Theodore Roosevelt, 1903.
— The Philippines ceased to be a U.S. colony, 1946.
5 P. T. Barnum, American circus owner, born 1810.
— Cecil Rhodes, British statesman and diamond king, born 1853.
— Amendment 26 to the U.S. Constitution, which sets the voting age at 18, proclaimed in 1971.
6 John Hus, Bohemian religious reformer, burned at the stake in 1415.
— Saint Thomas More beheaded, 1535.
— John Paul Jones, American naval hero, born 1747.
— First state convention of U.S. Republican Party, 1854.
7 Tanabata Matsuri (Star Festival), Japan.
— Gustav Mahler, Bohemian composer, born 1860.
— Gian Carlo Menotti, American composer, born 1911.
— Chinese and Japanese troops clashed, beginning the struggle that became World War II, 1937.
8 Count von Zeppelin, German inventor, born 1838.
— John D. Rockefeller, American industrialist and philanthropist, born 1839.
9 Youth Day, Morocco.
— Argentina declared its independence from Spain, 1816.
10 The Bahamas became independent from the United Kingdom, 1973.
— John Calvin, Protestant leader, born in France in 1509.
— J. A. M. Whistler, American painter, born 1834.
— Wyoming became the 44th U.S. state, 1890.
— Battle of Britain in World War II began, 1940.
11 Robert I (Robert the Bruce), king of Scotland, born 1274.
— John Quincy Adams, sixth U.S. president, born 1767.
— Aaron Burr killed Alexander Hamilton in a duel, 1804.
12 Orangemen's Day, Northern Ireland.
— Julius Caesar, Roman general, born 100? B.C.
— Josiah Wedgwood, British porcelain maker, born 1730.
— Henry David Thoreau, American author, born 1817.
— Sir William Osler, Canadian physician, born 1849.
— George Eastman, American inventor, born 1854.
— Andrew Wyeth, American painter, born 1917.
— Panama Canal opened, 1920.
13 Celebration of Our Lady of Fatima, Portugal.
— Northwest Ordinance adopted by United States, 1787.
— Mary Emma Woolley, American educator, born 1863.
14 Jules Cardinal Mazarin, French statesman, born 1602.
— Bastille Day, France; citizens stormed the Bastille in 1789, beginning the French Revolution.
— Gerald R. Ford, 38th U.S. president, born 1913.
15 Inigo Jones, English architect, born 1573.


July birthstone—ruby


July flower—water lily


July 4—U.S. Independence Day


July 11—Burr-Hamilton duel

July's flowers are the water lily and larkspur. The ruby is July's gem. Carole S. Angell

Quotations

Then came hot July, boiling like to fire,
That all his garments he had cast away.
Edmund Spenser

If the first of July be rainy weather,
It will rain, more or less, for four weeks together.
English proverb

The summer looks out from her brazen tower,
Through the flashing bars of July.
Francis Thompson

Hot July brings cooling showers,
Apricots and gillyflowers.
Sara Coleridge

Related articles in *World Book* include:

Bastille Day	Canada Day	Ruby
British North America Act	Independence Day	Summer
Calendar		Water lily

Important July events

15 Rembrandt, Dutch painter and etcher, born 1606.
— Manitoba became a province of Canada, 1870.
— Second Battle of the Marne in World War I began, 1918.
16 Andrea del Sarto, Italian painter, born 1486.
— Sir Joshua Reynolds, English painter, born 1723.
— First mission in California established at San Diego by Father Junípero Serra, 1769.
— District of Columbia established, 1790.
— Mary Baker Eddy, founder of the Christian Science movement, born 1821.
— Roald Amundsen, Norwegian explorer, born 1872.
— First atomic bomb set off, Alamogordo, New Mexico, 1945.
17 John Jacob Astor, American financier, born 1763.
— Spain officially turned over Florida to United States, 1821.
— Russian royal family killed at Yekaterinburg, 1918.
— Spanish Civil War began, July 17-18, 1936.
18 W. M. Thackeray, English author, born 1811.
19 Samuel Colt, firearms inventor, born 1814.
— Edgar Degas, French painter, born 1834.
— First women's rights convention in United States, 1848.
— France declared war on Prussia, 1870.
20 Colombia began its war for independence from Spain, 1810.
— Petrarch, Italian poet, born 1304.
— British Columbia became a Canadian province, 1871.
— Louis Riel, Canadian rebel, tried for treason in 1885.
— German generals tried to kill Hitler, 1944.
— Neil A. Armstrong, American astronaut, became the first person to walk on the moon, 1969.
21 National Day, Belgium.
— Leopold became king of Belgium, 1831.
— First Battle of Bull Run, American Civil War, 1861.
— Ernest Hemingway, American author, born 1899.
22 Gregor Mendel, Austrian botanist, born 1822.
— Battle of Atlanta in the American Civil War, 1864.
23 Haile Selassie I, emperor of Ethiopia, born 1892.
24 The British captured Gibraltar, 1704.
— Simón Bolívar, South American liberator, born 1783.
— Alexandre Dumas the Elder, French author, born 1802.
— Pioneer Day; Mormons settled Salt Lake City, Utah, 1847.
— Amelia Earhart, American aviator and first woman to fly over the Atlantic, born 1897.
— Arthur Boyd, Australian artist, born 1920.
25 George Stephenson, British engineer, first successfully demonstrated a steam locomotive, 1814.
— Arthur Balfour, British statesman, born 1848.
— First flight across the English Channel made by Louis Blériot, 1909.
— Puerto Rico became a U.S. commonwealth, 1952.
26 Independence Day, Liberia.
— The Netherlands declared its independence, 1581.
— New York ratified the U.S. Constitution, 1788.
— George Bernard Shaw, Irish playwright, born 1856.
— Carl Jung, Swiss psychologist, born 1875.
27 Bank of England incorporated, 1694.
— Author Alexandre Dumas the Younger, French author, born 1824.
— The first permanent Atlantic cable completed, 1866.
— Truce ending the Korean War signed, 1953.
28 Peru became independent from Spain, 1821.
— Beatrix Potter, English author and illustrator for children, born 1866.
— Amendment 14 to the U.S. Constitution, defining citizenship, was proclaimed in 1868.
— Austria-Hungary declared war on Serbia, beginning World War I, 1914.
— Work began on Sydney Harbour Bridge, Australia, 1923.
29 Alexis de Tocqueville, French politician and author, born 1805.
— Booth Tarkington, American novelist, born 1869.
— Benito Mussolini, Italian dictator, born 1883.
30 First American representative assembly met, in Jamestown, Virginia, 1619.
— Henry Ford, American automaker, born 1863.
31 Christopher Columbus reached Trinidad, 1498.
— English attacked the Spanish Armada, 1588.
— First patent in United States registered, 1790.

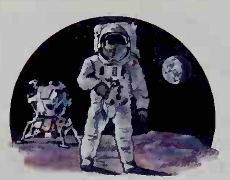
WORLD BOOK illustrations by Mike Hagel



July 14—French Revolution began



July 16—first atomic bomb explosion



July 20—first walk on the moon



July 28—start of World War 1



M. Tonooka, Bruce Coleman, Inc.

The Column of July stands on the site of the Bastille in Paris. It honors French people killed in the July Revolution of 1830.

July Revolution of 1830 took place in Paris when the French people revolted against King Charles X and brought Louis Philippe to the throne. Charles had tried to move France toward the absolute monarchy it had been before the French Revolution began in 1789.

In the elections of 1830, the liberals had won a large majority in the Chamber of Deputies, France's legislature. King Charles, who opposed the liberals, then issued the July Ordinances. They called for strict censorship of the press, dissolved the newly elected Chamber of Deputies before it had met, set a date for new elections, and reduced the number of voters.

Several important urban groups revolted. Journalists and other middle-class professionals called for demonstrations. Workers set up barricades in the streets of Paris and controlled the city center for three days. Charles X soon gave up the throne and fled to England.

The workers favored a republican form of government. But the Marquis de Lafayette threw his great influence behind a limited monarchy under Louis Philippe, the Duke of Orléans, who then became king. Louis Philippe was seen as a *bourgeois* (middle-class) king rather than an aristocratic king such as Charles X had been. A new French constitution was drawn up that was the most liberal constitution in Europe.

A wave of revolutions swept through Europe following the July Revolution in France. In one of them, Belgians won their independence from the Dutch. In France, urban unrest continued. Workers sought greater control over the economy but were denied it. Louis Philippe became steadily more conservative during his reign, known as the July Monarchy. In 1848, he was overthrown by another revolution. Peter N. Stearns

See also **Charles X** (of France); **Louis Philippe.**

Jumbo. See Elephant (introduction).

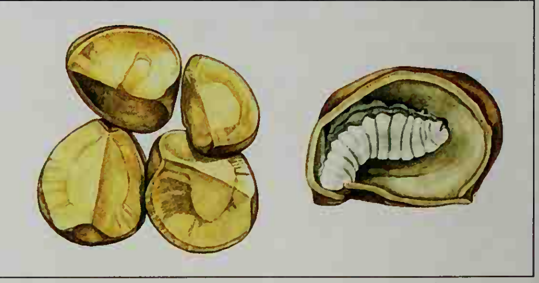
Jumna River. See Yamuna River.

Jumping. See Track and field; **Olympic Games** (table).

Jumping bean, the seed of a Mexican shrub, is famous for its quick, jumping movements. The movements of a jumping bean are actually caused by a caterpillar that lives inside the seed. Moths of the species *Laspeyresia saltitans* deposit their eggs in the shrub's flowers. After the eggs hatch, the caterpillars burrow into the young seeds of the shrub. The seeds later develop a hard outer wall that conceals any indication of how the caterpillar entered.

The caterpillar eats away the inside of the seed, but it leaves the seed wall undamaged. The insect then builds a web along the inner wall. The seed jumps when the caterpillar grasps the web and jerks its body. Scientists believe the jumping helps scare away animals that might try to eat the seeds. Jumping beans remain active for several months. Then the caterpillar makes a circular lid by cutting through the seed wall. The caterpillar later forms a cocoon and begins to change into a moth. When the change is completed, the adult moth pushes through the lid and leaves the seed. William C. Burger

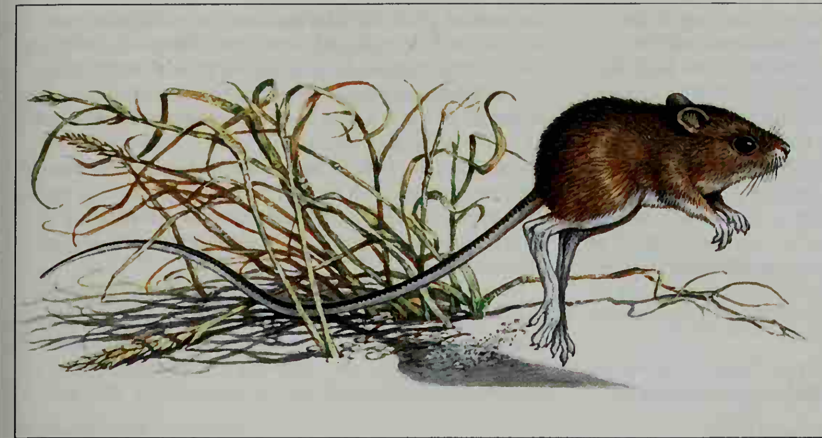
Scientific classification. The jumping bean plant belongs to the spurge family, Euphorbiaceae. The scientific name for the jumping bean is *Sebastiana pavoniana.*



WORLD BOOK illustration by Oxford Illustrators Limited

Jumping beans, *left,* are actually the seeds of a Mexican shrub. A caterpillar lives in each jumping bean, *right.* By grasping the silken wall of the bean with its legs and vigorously snapping its body, the caterpillar makes the bean move suddenly.

Jumping mouse is a small animal that usually moves by hopping. Jumping mice have long hind legs and unusually long tails. They use their hind legs to hop and their tails for balance. A jumping mouse is about 4 inches (10 centimeters) long, excluding its 5-inch (13-centimeter) tail. The animal's fur is dark on the back and yellowish-brown on the belly. Most *species* (kinds) have



A jumping mouse is a rodent that usually moves by hopping. Jumping mice use their long tails for balance when they hop.

WORLD BOOK illustration by John D. Dawson

a line along the sides of their bodies where the dark-colored and the lighter-colored fur meet.

Jumping mice are rodents that live in Asia, Europe, and North America. Scientists have identified several species of the mice. Most North American species live in meadows and thickets along the edges of woods in the northern United States and in Canada. They are found most frequently in damp places. They are closely related to the dormouse and jerboa (see **Dormouse; Jerboa**).

Jumping mice eat insects, leaves and stems, and berries and seeds. The female jumping mouse gives birth to a litter of about five young twice a year. Unlike most other mice, jumping mice *hibernate* (sleep through the winter). Clyde Jones

Scientific classification. Jumping mice belong to the jumping mouse family, Zapodidae. North American jumping mice are in either of two genera, *Zapus* or *Napaeozapus.*

E. R. Degginger

The woodland jumping mouse, *shown here,* normally lives in meadows and thickets along the edge of woods in the northern sections of the United States and in Canada.

Junco is a small bird related to the finches. The *dark-eyed junco* lives throughout much of North America. It is about 6 $\frac{1}{2}$ inches (17 centimeters) long. There are five subspecies of dark-eyed juncos in the United States—*gray-haired junco, Guadalupe junco, Oregon junco, slate-colored junco,* and *white-winged junco.*

The *yellow-eyed junco* is a separate species. It lives mainly in Mexico. The yellow-eyed junco has bright yellow eyes.

The junco feeds on weed seeds and on caterpillars and other insects. It nests beneath overhanging banks. The female lays three to five bluish-white eggs. Juncos breed in northern evergreen forests.

Sandra L. Vehrencamp

Scientific classification. Juncos are members of the finch family, Fringillidae. The dark-eyed junco is classified as *Junco hyemalis.* The yellow-eyed junco is *J. phaeonotus.*

See also **Finch**.



WORLD BOOK illustration by John Rignall, Linden Artists Ltd.

The dark-eyed junco is a small bird that lives throughout much of North America. The Oregon junco, *shown here,* is one of four subspecies that live in the United States.

June is the sixth month of the year according to the Gregorian calendar, which is used in almost all the world today. June was the fourth month in the early Roman calendar, and it once had 29 days. The Romans later moved the beginning of the year to January 1, making June the sixth month. When the Roman statesman Julius Caesar reformed the calendar in 46 B.C., he gave June 30 days. Some authorities believe the Romans named the month for Juno, the patron goddess of marriage. June was believed to be the best time for marriages, and it remains a popular month for weddings. Others trace the name to a family name, Junius. The Junius family was powerful and important throughout the early history of ancient Rome.

June 1 marks Gawai Dayak (Dayak Harvest Festival), the most important holiday celebrated in the state of Sarawak in Malaysia. The Bahamas celebrates Labour Day on the first Friday of June. The Philippines' Independence Day is on June 12. In the United States, Flag Day is celebrated on June 14, the anniversary of the adoption of the U.S. flag by the Continental Congress in 1777. The third Sunday of the month is Father's Day in Canada and the United States. Some Americans observe Juneteenth, though it is not a national holiday. The name *Juneteenth* is a shortening of June 19th, the date on which many of the slaves in Texas first learned of their emancipation.

June 24th, St. John the Baptist's Day, is celebrated in many countries, and customs surrounding the holiday vary from place to place. Also known as Midsummer's Day, this holiday often combines a celebration of the summer solstice (which occurs between the 20th and

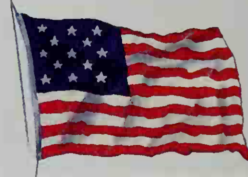
Important June events

1 Gawai Dayak (Dayak Harvest Festival), Malaysia.
— Jacques Marquette, French explorer, born 1637.
— Kentucky became the 15th U.S. state, 1792.
— Tennessee became the 16th U.S. state, 1796.
— Brigham Young, Mormon leader, born 1801.
— Sir Frank Whittle, British inventor, born 1907.
2 Italians voted to make Italy a republic instead of a monarchy, 1946.
— Thomas Hardy, English novelist, born 1840.
— Sir Edward Elgar, English composer, born 1857.
3 De Soto claimed Florida for Spain, 1539.
— Dutch West India Company chartered, 1621.
— Jefferson Davis, president of the Confederate States of America during the Civil War, born 1808.
— King George V of the United Kingdom born 1865.
4 King George III of the United Kingdom born 1738.
— Battle of Midway in World War II began, 1942.
5 Adam Smith, Scottish economist and author, born 1723.
— First public balloon ascent, France, 1783.
— Marshall Plan described by U.S. Secretary of State George C. Marshall, 1947.
— Six-Day War began between Israel and Egypt, Jordan, and Syria, 1967.
— U.S. Senator Robert F. Kennedy shot by an assassin. He died the following day, 1968.
6 National Day and Flag Day, Sweden.
— Nathan Hale, American patriot, born 1755.
— YMCA organized in London, 1844.
— Thomas Mann, German novelist, born 1875.
— D-Day, World War II; Allied troops landed on the German-held coast of northern France in 1944.
7 "Beau" Brummell, English dandy, born 1778.
— Norway dissolved union with Sweden, 1905.
8 Robert Schumann, German composer, born 1810.
— Frank Lloyd Wright, American architect, born 1867.
9 George Stephenson, British engineer known as the Founder of Railways, born 1781.
— Carl Nielsen, Danish composer, born 1865.
— Cole Porter, American composer, born 1893.
10 Day of Portugal, national day.
— Alexander the Great died, 323 B.C.
11 John Constable, English painter, born 1776.
— American Continental Congress appointed a committee to draw up a declaration of independence, 1776.
— Richard Strauss, German composer, born 1864.
12 The Philippines gained independence from Spain, 1898.
— George Bush, 41st U.S. president, born 1924.
— Anne Frank, diarist, born 1929.
13 Winfield Scott, American general, born 1786.
— William Butler Yeats, Irish poet and playwright, born 1865.
— Yukon Territory organized, 1898.
— Carlos Chávez, Mexican composer, born 1899.
— "Red" Grange, football hero, born 1903.
14 Flag Day, United States.
— Harriet Beecher Stowe, American author of *Uncle Tom's Cabin*, born 1811.
— Hawaii organized as a territory, 1900.
— First nonstop transatlantic flight made by British airmen John Alcock and Arthur Whitten Brown, 1919.
15 King John granted Magna Carta, 1215.
— George Washington was appointed commander in chief of the Continental Army, 1775.
— Arkansas became the 25th U.S. state, 1836.
— Edvard Grieg, Norwegian composer, born 1843.
— Charles Goodyear was granted a patent for rubber vulcanization, 1844.
16 Ford Motor Company founded, 1903.
17 Iceland became independent from Denmark in 1944.
— Jacques Marquette and Louis Jolliet began exploring the Mississippi River, 1673.
— John Wesley, the founder of Methodism, born 1703.
— Battle of Bunker Hill, 1775.
— Charles Gounod, French composer, born 1818.


June birthstone—pearl


June flower—rose


June 6—D-Day in World War II


June 14—Flag Day

22nd of June) with the commemoration of the anniversary of the birth of Saint John the Baptist.

June's flowers are the rose and the honeysuckle. Gems associated with the month are the pearl, alexandrite, and moonstone. Carole S. Angell

Quotations

And what is so rare as a day in June?
Then, if ever, come perfect days;
Then Heaven tries earth if it be in tune,
And over it softly her warm ear lays;
Whether we look, or whether we listen,
We hear life murmur, or see it glisten.

James Russell Lowell

I knew that you were nearing, June, and I knew that
you were nearing—
I saw it in the bursting buds of roses in the clearing;
The roses in the clearing, June, were blushing pink and red,
For they had heard upon the hills the echo of your tread.

Douglas Mallock

No price is set on the lavish summer;
June may be had by the poorest comer.

James Russell Lowell

Then let us, one and all, be contented with our lot;
The June is here this morning, and the sun is shining hot;
Oh! let us fill our hearts up with the glory of the day,
And banish ev'ry doubt and care and sorrow far away.

James Whitcomb Riley

See also **Calendar; Father's Day; Flag Day.**

Important June events

17 Igor Stravinsky, composer, born in Russia in 1882.
— Reclamation Act passed by U.S. Congress, 1902.
— Charles Eames, American designer, born 1907.
— John Hersey, American novelist, born 1914.
— Burglary of Democratic Party headquarters in Washington, D.C., touched off Watergate political scandal, 1972.
18 United States declared war on United Kingdom, 1812.
— Napoleon defeated at the Battle of Waterloo, 1815.
19 Juneteenth, a celebration of the end of slavery in the United States.
— Revolutionary Day, Algeria.
— Blaise Pascal, French philosopher, mathematician, and scientist, born 1623.
20 Congress adopted the design for the Great Seal of the United States, 1782.
— Eli Whitney applied for a patent on the cotton gin, 1793.
— Jacques Offenbach, French composer, born 1819.
— Victoria became queen of the United Kingdom, 1837.
— West Virginia became the 35th U.S. state, 1863.
— American President Andrew Johnson announced the purchase of Alaska from Russia, 1867.
— Alberto Santos-Dumont, Brazilian aviator, born 1873.
21 Daniel Carter Beard, founder of Boy Scouts of America, born 1850.
— New Hampshire ratified the U.S. Constitution, 1788.
— Cyrus McCormick granted patent for the reaper, 1834.
— Jean-Paul Sartre, French philosopher and writer, born 1905.
— Allied forces captured Okinawa in World War II, 1945.
22 Napoleon I abdicated for the second time, 1815.
— Julian Huxley, British biologist, born 1887.
— Anne Morrow Lindbergh, American author, born 1906.
— France surrendered to Germany in World War II, 1940.
23 National Day, Luxembourg.
— William Penn signed land treaty with American Indians, 1683.
— Carl Milles, Swedish sculptor, born 1875.
— King Edward VIII of the United Kingdom, born 1894.
— Taft-Hartley Act became U.S. law, 1947.
24 Midsummer's Day (St. John the Baptist's Day).
— Éleuthère Irénée du Pont, businessman, born 1771.
— Henry Ward Beecher, clergyman and orator, born 1813.
25 Virginia ratified the U.S. Constitution, 1788.
— Sioux Indians defeated Lieutenant Colonel George Custer and his troops at the Little Bighorn, Montana, 1876.
— Fair Labor Standards Act became U.S. law, 1938.
— Korean War began, 1950.
26 British Somaliland (now part of Somalia) became independent, 1960.
— William Thomson, Lord Kelvin, British physicist, born 1824.
— Pearl S. Buck, American novelist, born 1892.
— United Nations Charter signed by delegates from 50 nations at San Francisco, 1945.
27 Charles Parnell, Irish patriot, born 1846.
— Paul L. Dunbar, American poet, born 1872.
— Helen Keller, deaf and blind American author and lecturer, born 1880.
28 King Henry VIII of England, born 1491.
— Jean-Jacques Rousseau, French writer, born 1712.
— Carl Spaatz, first U.S. Air Force chief of staff, born 1891.
— Archduke Franz Ferdinand of Austria-Hungary and his wife were assassinated in 1914, touching off World War I.
— Treaty of Versailles signed, 1919.
— Peter Paul Rubens, Flemish painter, born 1577.
29 Parliament of the United Kingdom passed the Townshend Acts, 1767.
— George W. Goethals, American engineer who built the Panama Canal, born 1858.
— William James Mayo, American surgeon, born 1861.
— George Ellery Hale, American astronomer, born 1868.
— Parliament authorized Canada to establish new provinces, 1871.
30 The federal Food and Drugs Act of the United States became law, 1906.
— Congo (Kinshasa) became independent in 1960.

WORLD BOOK illustrations by Mike Hagel


June 17—Battle of Bunker Hill


June 18—Battle of Waterloo


June 25—Custer's Last Stand


June 27—Helen Keller born



Keith Gunnar, West Stock

Juneau, the capital of Alaska, lies at the foot of steep mountains. It can be reached only by aircraft or boat. It was founded on the site of Alaska's first major gold discovery.

Juneau, *JOO noh* (pop. 30,711), is the capital of Alaska. It lies in the southeastern part of the state, the area known as the Alaska Panhandle. For location, see **Alaska** (political map).

No roads lead into Juneau. The city can be reached only by aircraft or boat. It lies on the Inside Passage, a scenic water transportation route that extends from Washington to southeastern Alaska. A state-operated ferry system on the Inside Passage connects Juneau to other communities in southeastern Alaska and to the lower 48 states. During the summer months, cruise ships stop daily in Juneau. The passengers enjoy such activities as a tour of historic downtown Juneau, a tram ride up nearby Mount Roberts, and a helicopter tour of the Juneau Icefield, which is a vast area of ice and snow that lies behind mountains bordering the city.

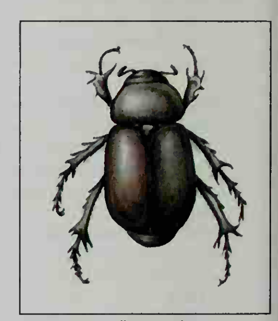
The local, state, and federal government provide about 45 percent of Juneau's jobs. Tourism is an important industry. Other chief industries include commercial fishing and mining. The Green's Creek Mine produces gold, lead, silver, and zinc.

Juneau was founded in 1880 on the site of Alaska's first major gold discovery. The city was first called Harrisburgh for Richard T. Harris, one of the two prospectors who first discovered gold there. In 1882, the city was renamed Juneau, after the other prospector, Joseph Juneau. In 1906, Juneau replaced Sitka as Alaska's capital.

For many years, gold mining was Juneau's chief economic activity. The city had the world's largest underground low-grade-ore gold mines. The last of the gold mines closed in 1944 when operating costs exceeded income. Some mining started up again in the late 1990's.

In 1970, the cities of Juneau and Douglas merged with the Greater Juneau Borough to form the City and Borough of Juneau. In 1976, Alaskans voted to move the state capital from Juneau to south-central Alaska, nearer the state's population center. But in 1982, they voted against providing funds for the move. Juneau has a council-manager form of government. Thad Poulson

Junebug, also called *June beetle* or *May beetle,* is a name for several large brown beetles often seen in the United States during May and June. They are related to the ancient scarab beetles of Egypt, which were considered sacred. Junebugs are usually seen at night, when light attracts them.



WORLD BOOK illustration by Shirley Hooper, Oxford Illustrators Limited

Junebug

Junebugs eat the young leaves of trees and shrubs. They deposit their eggs in the ground in meadows, gardens, and fields. The young larvae are large white grubs with brown heads. They burrow into the soil in autumn and stay there two years or more, feeding on roots of corn, grains, grasses, and vegetables. They come out in May or June as adult beetles. Candace Martinson

Scientific classification. Junebugs are in the order Coleoptera and the scarab family, Scarabaeidae.

See also **Scarab.**

Jung, *yoong,* **Carl Gustav** (1875-1961), was a Swiss psychiatrist and psychologist who developed the field of analytical psychology. His teachings extended beyond psychology and influenced other fields, including anthropology, philosophy, and theology. Jung challenged many of the theories proposed by the famous Austrian physician Sigmund Freud, who had developed the method of therapy called *psychoanalysis.* However, both Jung and Freud stressed the effects of unconscious ideas on human behavior.

His life. Jung, a minister's son, was born on July 26, 1875, in Kesswil, Switzerland. As a boy, he developed a lifelong interest in superstition, mythology, and the occult. From 1895 to 1900, Jung studied medicine at the University of Basel. In 1900, he received a license to practice medicine. He then went to Zurich to practice psychiatry.

Pantheon

C. G. Jung

Early in his career, Jung used Freud's psychoanalytical theories. The two met in 1907. They became close, and Jung participated in the psychoanalytic movement. But Jung believed Freud placed too much importance on sexual instincts in human behavior. Jung's de-emphasis of sexuality led to a break with Freud, and their friendship ended in 1913. Jung became a professor of medical psychology at the University of Basel in 1943.

His theories. Jung used the terms *introvert* and *extrovert* to classify people. Introverts depend mainly on themselves to satisfy their needs. Extroverts seek the company of other individuals for personal fulfillment. Jung taught that therapists should help patients balance the two character types in themselves.

Jung thought that many factors besides sex stimulate human behavior. He believed the personalities of parents are major influences on a child. Unlike Freud, Jung taught that sexuality does not become important until just before young people reach puberty.

Jung, like Freud, believed that the unconscious part of the mind contains personal drives and experiences of which an individual is not aware. But Jung also thought that the members of every race share a deeper level of unconsciousness, which he called the *collective unconscious.* According to Jung, the collective unconscious includes thought patterns called *archetypes,* which have developed through the centuries. Jung thought archetypes enable people to react to situations in ways similar to their ancestors. For this reason, Jung believed that the collective unconscious contains wisdom that guides all humanity. He thought therapy should bring people in contact with the collective unconscious.

Jung's studies of mythology convinced him that archetypes of gods and supernatural powers are deeply rooted in the collective unconscious. He believed religion enables people to express an unconscious need for religious experience. George H. Pollock

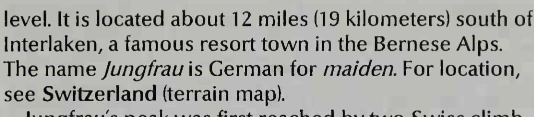
Related articles in *World Book* include:

Electra
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Freud, Sigmund
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Psychoanalysis

Additional resources

Jung, Carl G. *The Essential Jung.* Rev. ed. Princeton, 1999. *Memories, Dreams, Reflections.* 1963. Reprint. Vintage Bks., 1989.
McLynn, Frank. *Carl Gustav Jung.* St. Martin's, 1997.
Stein, Murray. *Jung's Map of the Soul.* Open Court, 1998.

Jungfrau, *YOONG frow,* an important mountain in the Swiss Alps, rises 13,642 feet (4,158 meters) above sea



level. It is located about 12 miles (19 kilometers) south of Interlaken, a famous resort town in the Bernese Alps. The name *Jungfrau* is German for *maiden.* For location, see **Switzerland** (terrain map).

Jungfrau's peak was first reached by two Swiss climbers in 1811. The Jungfrau is part of a circular ridge enclosing several glaciers that unite to form the Aletsch Glacier. An electric railway carries people up the mountain as far as the Jungfraujoch, a flat area at an elevation of 11,333 feet (3,454 meters). Passengers may board the railway at Kleine Scheidegg. Howell C. Lloyd

See also **Alps; Mountain** (diagram: Major mountains).

Jungle is an area of lush, tropical vegetation. People commonly use the word *jungle* to refer to what ecologists call a *tropical rain forest.* A tropical rain forest is a plant and animal community with huge trees, long vines, and such animals as parrots and monkeys. See **Rain forest.** Some ecologists consider jungles to be one stage in a rain forest's development. They regard jungles as thick tangles of plants growing where sunlight reaches the floor of the rain forest. Such jungles grow in the rain forest along riverbanks and in clearings, where no trees block the sunlight. Farmers and lumber companies often cut down sections of tropical rain forests, but the cleared areas later may become choked with jungle growth. Jungles may be so thick that people can only move through them by hacking paths with long knives called *machetes.* Thomas E. Lovejoy

Junglefowl is the name of a group of birds that live in southern Asia and the East Indies. They are the ancestors of present-day domestic chickens. Junglefowl are common in India. They run with great speed, fly rather high, and roost in trees. The hen's cackle sounds much like that of our domesticated fowls, but the cock crows like a bantam rooster.

The wild red junglefowl lives mostly in mountain forests near small villages. It lives in bamboo thickets but often mingles with domesticated birds. Unlike domestic fowl, the male takes only one hen for its mate. Males are orange-red and shiny green in color. Females are a spotted brown and often are hard to see. They hatch



Brian Hawkes

The male junglefowl is brightly colored. Red flesh forms a *comb* on top of the head and hangs as *wattles* from the throat. Junglefowl are ancestors of the domestic chicken.

eggs in a simple hole or hollow in the ground in the forest. Fred J. Alsop, III

See also Chicken (History).

Junior Achievement is an organization that educates young people about business and economics. Business and industrial firms sponsor the organization, which operates in cities, suburbs, and rural areas across the United States. Junior Achievement International reaches students in over 100 countries around the world. Junior Achievement, also known as JA, conducts activities that begin in kindergarten and continue through high school, with classroom programs, after-school programs, and Internet exercises. Junior Achievement programs are taught by classroom volunteers from the business community.

In the *Junior Achievement Company Program,* an after-school program, high school students form, manage, and operate their own companies during the school year. They keep records, pay themselves small wages, and run their businesses. At the end of the school year, the students dissolve their corporations and divide their capital and any profit among shareholders. Each company has at least one adult volunteer adviser.

In 1975, Junior Achievement began the National Business Leadership Conference and the National Business Hall of Fame. The conference is an annual forum in which business and education leaders discuss economic issues. The hall of fame honors people who have made outstanding contributions to American business.

The Junior Achievement movement was founded in Springfield, Massachusetts, in 1919 by Theodore N. Vail, president of the American Telephone and Telegraph Company; Horace A. Moses, a paper manufacturer; and Senator Winthrop Murray Crane of Massachusetts. The national headquarters are in Colorado Springs, Colorado. Critically reviewed by Junior Achievement, Inc.

Junior Chamber of Commerce, United States. See Jaycees.

Junior college. See Community college.

Junior high school is a school designed mainly for students in the seventh, eighth, and ninth grades. However, some junior high schools consist of only grades seven and eight. Others are for students in the sixth, seventh, and eighth grades. The United States has about 5,900 public junior high schools.

The purpose of a junior high school is to help boys and girls from 12 to 15 years of age prepare for high school. During these years, most young people begin to undergo the physical, mental, social, and emotional changes associated with adolescence.

Junior high school programs help students adjust to the differences between elementary school and high school. Unlike elementary schools, junior high schools are organized around subjects taught by specialists. Students move from one classroom to another to take courses offered by teachers trained in the specific subject they teach. In this way, the junior high school is more like a high school than an elementary school.

Junior high school students continue studying many of the subjects they had in elementary school, such as English, social studies, science, and mathematics. At the same time, they begin studying subjects that were once taught only in high school. These subjects include foreign languages, home economics, and industrial arts. Certain required subjects, especially English and social studies, may be combined into one course. The course is taught either by one teacher or by a team of teachers. Courses combined in this way may be called *block-time classes, unified studies,* or *core programs.*

In junior high school, part of each student's program consists of *elective courses.* These are courses chosen from a variety of nonrequired subjects, such as business education or music. Students also are encouraged to take part in clubs, sports, and social activities.

The first junior high schools were established in various parts of the United States about 1910. Today, many states have them. Since the 1960's, however, an increasing number of school districts have been replacing junior highs with *middle schools.* These schools consist of grades six through eight or five through eight. Many educators believe that middle schools focus better on the needs and interests of students than do junior highs.

Stephen M. Fain

See also Library (Middle school and junior high school libraries); Middle school.

Junior Leagues are community service organizations for women from age 18 through 45. The leagues encourage and train their members to participate in community affairs as volunteer leaders and workers. Each league sponsors projects in such fields as the arts, criminal justice, education, health, and urban renewal. Programs also address needs of specific groups, such as children, older adults, women, and the disabled.

There are about 300 Junior Leagues in the United States, Canada, and Mexico, and in London, England. About 200,000 women belong to them. Each league is self-governing, but all are affiliated with the Association of Junior Leagues, Inc. The association, founded in 1921, advises the local leagues and coordinates programs. Its activities include programs to train youth leaders and promote volunteer activities during retirement. The association's headquarters are in New York City.

Critically reviewed by the Association of Junior Leagues, Inc.

Juniper, *JOO nuh puhr,* is the common name of a group of evergreen shrubs and small trees of the cypress family. About 60 *species* (kinds) of junipers grow in many parts of the world. There are 13 species native to the United States. Juniper trees are often called *cedars* or *redcedars.* However, they are not the same as



Richard Shiell, Earth Scenes

The Chinese juniper comes in many cultivated varieties. This variety grows low to the ground, forming a dense mat.

true cedars, which belong to the pine family.

Junipers have distinctive berrylike cones, or fruits. These fragrant fruits vary in color from blue to red. Usually, the male and female flowers grow on different trees. Only trees with female flowers will bear fruit. Leaves of the tree may be needlelike and prickly, or they may be scalelike and lie tightly against the twigs.

The *common juniper* usually grows as a low, mat-forming shrub. It ranks as one of the most widely distributed woody plants in the world. It grows throughout the Northern Hemisphere in countries with a cold climate. The fruit of the common juniper contains an oil used in medicines and to flavor gin. The *Chinese juniper,* another well-known species, is native to eastern Asia. Many cultivated varieties of Chinese juniper are planted worldwide.

The *eastern redcedar* is the only juniper of commercial importance in the United States. Its fragrant, reddish wood is used in cedar chests and closets. The odor acts as a moth repellent. Redcedar is also used in making furniture and pencils. Juniper wood resists decay, and is used for fence posts. Oils from the leaves and wood of some species are used in perfumes and medicines.

Scientific classification. Junipers belong to the cypress family, Cupressaceae. They are genus *Juniperus.* The common juniper is *J. communis,* the Chinese juniper is *J. chinensis,* and the eastern redcedar is *J. virginiana.* Jerry M. Baskin

See also **Cedar; Conifer; Tree** (Familiar broadleaf and needleleaf trees [picture]).

Junípero Serra. See Serra, Junípero.



© Jonathan T. Wright, Bruce Coleman Ltd.

A junk is a wooden boat used in the Far East. Junks have from two to five masts. The large sails are made of cotton cloth or matting. Junks are used in commerce and sometimes as homes.

Junk is a wooden sailing vessel used in China and other countries of the Far East. Its *bow* (front) is broad and flat, and its *stern* (rear) is broad and high. Junks are used to transport goods on rivers and seas. Some people live on junks. Most junks have two or three *masts* (poles that hold the sails), but some have as many as five. The junk's sails are made of cotton cloth or matting. Octavia N. Cubbins

Junkers. See **Airplane** (World War I; picture: The Junkers J 1).

Junkers, *YUNG kuhrz,* were wealthy landowners of Prussia. The first Junkers were descendants of knights who settled in Prussia in the Middle Ages. The Junkers gained a monopoly of civilian and military offices during the reign of Frederick the Great in the 1700's. Prussia, led by the Junkers under the statesman Otto von Bismarck, unified Germany in 1871. After World War I, liberals of the Weimar Republic tried to reduce the powers of the Junkers. Paul von Hindenburg, a Junker elected president in 1925, prevented the reduction. Junkers helped the Nazis overthrow the republic in 1933. Later, Junkers who opposed Nazi dictator Adolf Hitler were executed after they plotted to assassinate him. See also **Prussia**.

Juno, *JOO noh,* was the sister and wife of Jupiter, king of the gods of Roman mythology. As Jupiter's wife, she was queen of the gods and the most powerful goddess. She played the same role in Roman mythology as the goddess Hera did in Greek mythology.

Roman women especially worshiped Juno. She was the goddess of marriage, and, by the Latin name *Juno Lucina* (Juno Who Brings to Light), she was the goddess of childbirth and perhaps originally of the moon. The Romans dedicated Juno's principal temple to her under the name *Juno Moneta* (Juno Who Gives Counsel). The Romans originally coined their money near this temple, and the words *money* and *mint* come from *moneta.* Juno, along with Jupiter and Minerva, was one of the three deities enshrined in temples on the Capitoline Hill. The hill was the religious center of ancient Rome. The three gods became known as the *Capitoline triad.*

Jupiter and Juno had a stormy marriage. Juno was jealous of Jupiter's love affairs with other goddesses and with mortal women, and she persecuted his mistresses.

In the *Aeneid,* an epic poem by the Roman author Virgil, Juno was the enemy of Aeneas, a Trojan hero. After Greek armies destroyed Troy, Aeneas wandered for many years until he established a nation in Italy. The descendants of this nation founded Rome. At the end of the *Aeneid,* Jupiter won Juno's support for Aeneas by promising Rome would rule a great empire in which Juno would be especially honored. E. N. Genovese

See also **Mythology** (Roman mythology); **Hera; Jupiter.**

Junta, *HUN tuh* or *JUHN tuh,* is a small group that takes over a government and rules by decree. Most juntas are composed of high-ranking military officers.

A junta may seize power to restore order in a country or to make reforms. The junta either serves as the government itself or sets up a government that follows its policies. In some juntas, one member has taken power as ruler. Most juntas have conservative or moderate programs. Junta rule occurs most often in countries that have unstable governments. The term *junta* was once associated primarily with Latin-American nations.

One example of a junta taking over a country occurred in Egypt in 1952. A military junta seized control of the Egyptian government. One member became prime minister, but the real power lay with junta members. A struggle for power developed between the prime minister and a member of the junta, Gamal Abdel Nasser. Nasser became prime minister in 1954 and later took complete power. Holbert N. Carroll

See also **Coup d'état.**

Jupiter is the largest planet in the solar system. Its diameter is 88,846 miles (142,984 kilometers), more than 11 times that of Earth, and about one-tenth that of the sun. It would take more than 1,000 Earths to fill up the volume of the giant planet. When viewed from Earth, Jupiter appears brighter than most stars. It is usually the second brightest planet—after Venus.

Jupiter is the fifth planet from the sun. Its *mean* (average) distance from the sun is about 483,600,000 miles (778,300,000 kilometers), more than five times Earth's distance. Ancient astronomers named Jupiter after the king of the Roman gods.

Astronomers have studied Jupiter with telescopes based on Earth and aboard artificial satellites in orbit around Earth. In addition, the United States has sent six *space probes* (crewless exploratory craft) to Jupiter.

Astronomers witnessed a spectacular event in July 1994, when 21 fragments of a comet named Shoemaker-Levy 9 crashed into Jupiter's atmosphere. The impacts caused tremendous explosions, some scattering debris over areas larger than the diameter of Earth.



Jet Propulsion Laboratory

The layers of dense clouds around Jupiter appear in a photograph of the planet taken by the Voyager 1 space probe. The large, oval-shaped mark on the clouds is the Great Red Spot. The spot is believed to be an intense atmospheric disturbance.

Physical features of Jupiter

Jupiter is a giant ball of gas and liquid with little, if any, solid surface. Instead, the planet's surface is composed of dense red, brown, yellow, and white clouds. The clouds are arranged in light-colored areas called *zones* and darker regions called *belts* that circle the planet parallel to the equator.

Orbit and rotation. Jupiter travels around the sun in a slightly *elliptical* (oval-shaped) orbit. The planet completes one orbit in 4,333 Earth-days, or almost 12 Earth-years.

As Jupiter orbits the sun, the planet rotates on its *axis,* an imaginary line through its center. The axis is tilted about 3 °. Scientists measure tilt relative to a line at a right angle to the *orbital plane,* an imaginary surface touching all points of the orbit.

Jupiter rotates faster than any other planet. It takes 9 hours 55 minutes to spin around once on its axis, compared to 24 hours for Earth. Scientists cannot measure the rotation of the interior of the giant planet directly, so they have calculated the speed from indirect measurements. They first calculated the speed using an average of the speeds of the visible clouds that move with interior currents, except for a more rapid zone near the equator.

Jupiter sends out radio waves strong enough to be picked up by radio telescopes on Earth. Scientists now measure these waves to calculate Jupiter's rotational speed. The strength of the waves varies under the influence of Jupiter's magnetic field in a pattern that repeats every 9 hours 55 minutes. Because the magnetic field originates in Jupiter's core, this variation shows how fast the plant's interior spins.

Jupiter's rapid rotation makes it bulge at the equator and flatten at the poles. The planet's diameter is about 6 percent larger at the equator than at the poles.

Mass and density. Jupiter is heavier than any other planet. Its *mass* (quantity of matter) is 318 times larger than that of Earth. Although Jupiter has a large mass, it has a relatively low density. Its density averages 1.33 grams per cubic centimeter, slightly more than the density of water. The density of Jupiter is about $\frac{1}{4}$ that of Earth. Because of Jupiter's low density, astronomers believe that the planet consists primarily of hydrogen and helium, the lightest elements. Earth, on the other hand, is made up chiefly of metals and rock. Jupiter's mix of chemical elements resembles that of the sun, rather than that of Earth.

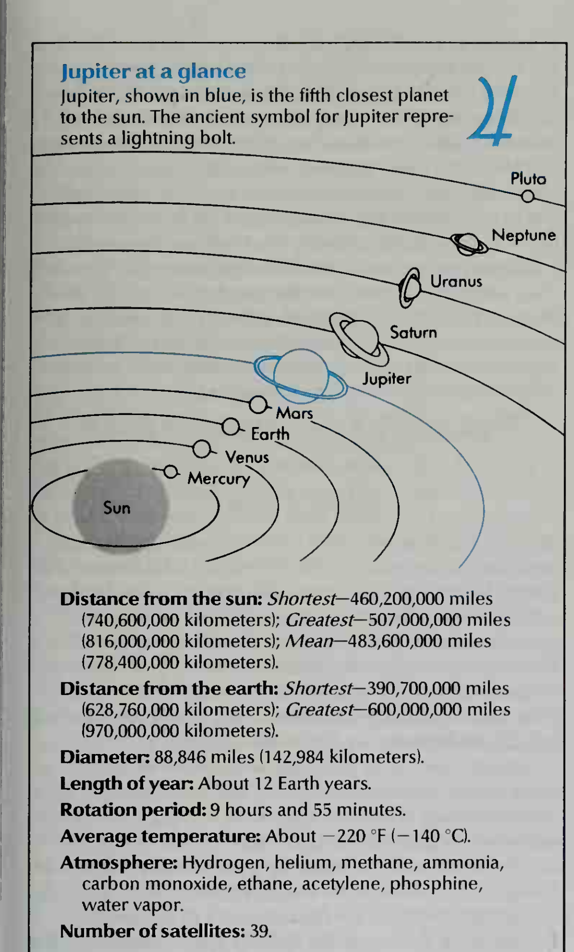
Jupiter may have a core made up of heavy elements. The core may be of about the same chemical composition as Earth, but 20 or 30 times more massive.

The force of gravity at the surface of Jupiter is up to 2.4 times stronger than on Earth. Thus, an object that weighs 100 pounds on Earth would weigh as much as 240 pounds on Jupiter.

The atmosphere of Jupiter is composed of about 86 percent hydrogen, 14 percent helium, and tiny amounts of methane, ammonia, phosphine, water, acetylene, ethane, germanium, and carbon monoxide. The percentage of hydrogen is based on the number of hydrogen molecules in the atmosphere, rather than on their total mass. Scientists have calculated these amounts from measurements taken with telescopes and other instruments on Earth and aboard spacecraft.

These chemicals have formed colorful layers of clouds at different heights. The highest white clouds in the zones are made of crystals of frozen ammonia. Darker, lower clouds of other chemicals occur in the belts. At the lowest levels that can be seen, there are blue clouds. Astronomers had expected to detect water clouds about 44 miles (70 kilometers) below the ammonia clouds. However, none have been discovered at any level.

Jupiter's most outstanding surface feature is the Great Red Spot, a swirling mass of gas resembling a hurricane. The widest diameter of the spot is about three times that of Earth. The color of the spot usually varies from brick-red to slightly brown. Rarely, the spot fades entirely. Its color may be due to small amounts of sulfur and phosphorus in the ammonia crystals.



Jupiter at a glance

Jupiter, shown in blue, is the fifth closest planet to the sun. The ancient symbol for Jupiter represents a lightning bolt.

Distance from the sun: *Shortest*—460,200,000 miles (740,600,000 kilometers); *Greatest*—507,000,000 miles (816,000,000 kilometers); *Mean*—483,600,000 miles (778,400,000 kilometers).

Distance from the earth: *Shortest*—390,700,000 miles (628,760,000 kilometers); *Greatest*—600,000,000 miles (970,000,000 kilometers).

Diameter: 88,846 miles (142,984 kilometers).

Length of year: About 12 Earth years.

Rotation period: 9 hours and 55 minutes.

Average temperature: About −220 °F (−140 °C).

Atmosphere: Hydrogen, helium, methane, ammonia, carbon monoxide, ethane, acetylene, phosphine, water vapor.

Number of satellites: 39.

The edge of the Great Red Spot circulates at a speed of about 225 miles (360 kilometers) per hour. The spot remains at the same distance from the equator but drifts slowly east and west.

The zones, belts, and the Great Red Spot are much more stable than similar circulation systems on Earth. Since astronomers began to use telescopes to observe these features in the late 1600's, the features have changed size and brightness but have kept the same patterns.

Temperature. The temperature at the top of Jupiter's clouds is about −220 °F (−140 °C). Measurements made by ground instruments and spacecraft show that Jupiter's temperature increases with depth below the clouds. The temperature reaches 70 °F (21 °C)—"room temperature"—at a level where the atmospheric pressure is about 10 times as great as it is on Earth. Scientists speculate that if Jupiter has any form of life, the life form would reside at this level. Such life would need to be airborne, because there is no solid surface at this location on Jupiter. Scientists have discovered no evidence for life on Jupiter.

Near the planet's center, the temperature is much higher. The core temperature may be about 43,000 °F (24,000 °C)—hotter than the surface of the sun.

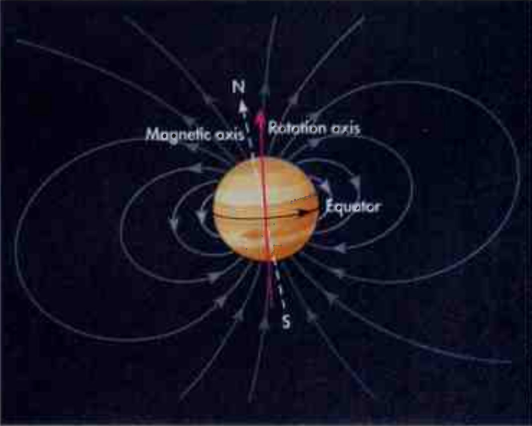
Jupiter is still losing the heat produced when it became a planet. Most astronomers believe that the sun, the planets, and all the other bodies in the solar system formed from a spinning cloud of gas and dust. The gravitation of the gas and dust particles packed them together into dense clouds and solid chunks of material. By about 4.6 billion years ago, the material had squeezed together to form the various bodies in the solar system. The compression of material produced heat. So much heat was produced when Jupiter formed that the planet still radiates about twice as much heat into space as it receives from sunlight.

Magnetic field. Like Earth and many other planets, Jupiter acts like a giant magnet. The force of its magnetism extends far into space in a region surrounding the planet called its *magnetic field.* Jupiter's magnetic field is about 14 times as strong as Earth's, according to measurements made by spacecraft. Jupiter's magnetic field is the strongest in the solar system, except for fields associated with sunspots and other small regions on the sun's surface.

Scientists do not fully understand how planets produce magnetic fields. They suspect, however, that the movement of electrically charged particles in the interior of planets generates the fields. Jupiter's field would be so much stronger than Earth's because of Jupiter's greater size and faster rotation.

Jupiter's magnetic field traps electrons, protons, and other electrically charged particles in radiation belts around the planet. The particles are so powerful that they can damage instruments aboard spacecraft operating near the planet.

Within a region of space called the *magnetosphere,* Jupiter's magnetic field acts as a shield. The field protects the planet from the *solar wind,* a continuous flow of charged particles from the sun. Most of these particles are electrons and protons traveling at a speed of about 310 miles (500 kilometers) per second. The field traps the charged particles in the radiation belts. The trapped particles enter the magnetosphere near the



WORLD BOOK illustration by Precision Graphics

Jupiter acts like a giant magnet. The diagram shows the planet's north (N) and south (S) magnetic poles. The curved lines indicate the direction of the *magnetic field,* the region in which the magnetism operates.

Satellites of Jupiter

Name	Mean distance from Jupiter: In miles	Mean distance from Jupiter: In kilometers	Diameter of satellite: In miles	Diameter of satellite: In kilometers	Year of discovery
Metis	79,600	128,100	25	40	1980
Adrastea	80,090	128,900	12	20	1979
Amalthea	112,700	181,400	91	146	1892
Thebe	137,900	221,900	62	100	1980
Io	262,000	421,600	2,256	3,630	1610
Europa	416,900	670,900	1,945	3,130	1610
Ganymede	664,900	1,070,000	3,273	5,268	1610
Callisto	1,170,000	1,883,000	2,986	4,806	1610
S/1975 J1 (S/2000 J1)	4,665,000	7,507,000	5	8	1975
Leda	6,941,000	11,170,000	6	10	1974
Himalia	7,121,000	11,460,000	106	170	1904
Lysithea	7,282,000	11,720,000	15	24	1938
Elara	7,295,000	11,740,000	50	80	1905
S/2000 J11	7,804,000	12,560,000	2.5	4.0	2000
S/2001 J10	11,792,000	18,978,000	1.2	2.0	2001
S/2000 J3	12,560,000	20,220,000	3.2	5.2	2000
S/2001 J8	12,870,000	20,712,000	1.2	2.0	2001
S/2001 J9	12,934,000	20,816,000	1.2	2.0	2001
S/2001 J2	12,950,000	20,841,000	2.5	4.0	2001
S/2000 J7	13,020,000	20,960,000	4.2	6.8	2000
S/2001 J7	13,047,000	20,997,000	1.9	3.0	2001
S/2000 J5	13,130,000	21,130,000	2.7	4.4	2000
Ananke	13,220,000	21,280,000	12	20	1951
S/2001 J3	13,250,000	21,324,000	2.5	4.0	2001
S/2001 J6	14,215,000	22,877,000	1.2	2.0	2001
S/2000 J6	14,340,000	23,080,000	2.4	3.8	2000
S/2000 J4	14,400,000	23,170,000	2.0	3.2	2000
S/2000 J9	14,480,000	23,310,000	3.1	5.0	2000
S/2001 J4	14,489,000	23,317,000	1.9	3.0	2001
S/2000 J10	14,530,000	23,390,000	2.4	3.8	2000
Carme	14,540,000	23,400,000	19	30	1938
S/2001 J11	14,541,000	23,401,000	1.9	3.0	2001
S/2001 J5	14,612,000	23,515,000	1.2	2.0	2001
Pasiphae	14,680,000	23,620,000	22	36	1908
S/2000 J2	14,760,000	23,750,000	3.2	5.2	2000
S/2001 J1	14,774,000	23,776,000	2.5	4.0	2001
S/2000 J8	14,860,000	23,910,000	3.4	5.4	2000
Sinope	14,880,000	23,940,000	17	28	1914
S/1999 J1	14,980,000	24,100,000	5	8	1999

poles of the magnetic field. On the side of the planet away from the sun, the magnetosphere stretches out into a magnetic tail, often called a *magnetotail,* that is at least 435 million miles (700 million kilometers) long.

Radio waves given off by Jupiter reach radio telescopes on Earth in two forms—bursts of radio energy and continuous radiation. Strong bursts occur when Io, the closest of Jupiter's four large moons, passes through certain regions in the planet's magnetic field. Continuous radiation comes from Jupiter's surface as well as from high-energy particles in the radiation belts.

Satellites. Jupiter has 39 known satellites. The four largest, in order of their distance from Jupiter, are Io, Europa, Ganymede, and Callisto. These four moons are called the *Galilean satellites.* The Italian astronomer Galileo discovered them in 1610 with a telescope.

Io has many active volcanoes, which produce gases containing sulfur. The yellow-orange surface of Io probably consists largely of solid sulfur that was deposited by the eruptions. Europa ranks as the smallest of the Galilean satellites, with a diameter of 1,945 miles (3,130 kilometers). Europa has a smooth, cracked, icy surface.

The largest Galilean satellite is Ganymede, with a diameter of 3,273 miles (5,268 kilometers). Ganymede is larger than the planet Mercury. Callisto, with a diameter of 2,986 miles (4,806 kilometers), is slightly smaller than Mercury. Ganymede and Callisto appear to consist of ice and rocky material. The two satellites have many craters.

Jupiter's remaining 35 satellites are much smaller than the Galilean moons. Amalthea and Himalia are the largest of the 35. Potato-shaped Amalthea is 163 miles (262 kilometers) in its long dimension. Himalia is 106 miles (170 kilometers) in diameter. Except for Metis and Adrastea, the small satellites were discovered by astronomers using large telescopes on Earth. Scientists discovered Metis and Adrastea in 1979 by studying pictures that had been taken by the Voyager spacecraft.

Rings. Jupiter has three thin rings around its equator. They are much fainter than the rings of Saturn. Jupiter's rings appear to consist mostly of fine dust particles. The main ring is about 20 miles (30 kilometers) thick and more than 4,000 miles (6,400 kilometers) wide. It circles the planet inside the orbit of Amalthea.

The impact of Comet Shoemaker-Levy 9

In March 1993, astronomers Eugene Shoemaker, Carolyn Shoemaker, and David H. Levy discovered a comet near Jupiter. The comet, later named Shoemaker-Levy 9, probably once orbited the sun independently but had been pulled by Jupiter's gravity into an orbit around the planet. When the comet was discovered, it had broken into 21 pieces. The comet probably had broken apart when it passed close to Jupiter. Calculations based on the comet's location and velocity showed that the fragments would crash into Jupiter's atmosphere in July 1994. Scientists hoped to learn much about the effects of a collision between a planet and a comet.

Astronomers at all the major telescopes on Earth turned their instruments toward Jupiter at the predicted collision times. Scientists also observed Jupiter with the powerful Hubble Space Telescope, which is in orbit around Earth; and the remotely controlled space probe Galileo, which was on its way to Jupiter.

The fragments fell on the back side of Jupiter as viewed from Earth and the Hubble Space Telescope. But the rotation of Jupiter carried the impact sites around to the visible side after less than half an hour. Scientists estimate that the largest fragments were about 0.3 to 2.5



Hubble Space Telescope Comet Team and NASA

Scars from the crash of Comet Shoemaker-Levy 9 appear on Jupiter's surface as a series of maroon blotches in this photo. The comet broke into 21 pieces before it hit Jupiter in 1994.

miles (0.5 to 4 kilometers) in diameter. The impacts were directly observable from Galileo, which was within about 150 million miles (240 million kilometers) from Jupiter. However, damage to certain of the probe's instruments limited its ability to record and send data. See the section *Flights to Jupiter* in this article.

The impacts caused large explosions, probably due to the compression, heating, and rapid expansion of atmospheric gases. The explosions scattered comet debris over large areas, some with diameters larger than that of Earth. The debris gradually spread into a dark haze of fine material that remained suspended for several months in Jupiter's upper atmosphere. If a similar comet ever collided with Earth, it might produce a haze that would cool the atmosphere and darken the planet by absorbing sunlight. If the haze lasted long enough, much of Earth's plant life could die, along with the people and animals that depend on plants.

Flights to Jupiter

The United States has sent six space probes to Jupiter: (1) Pioneer 10, (2) Pioneer-Saturn, (3) Voyager 1, (4) Voyager 2, (5) Ulysses, and (6) Galileo.

Pioneer 10 was launched in 1972 and flew within 81,000 miles (130,000 kilometers) of Jupiter on Dec. 3, 1973. The probe revealed the severe effects of Jupiter's radiation belt on spacecraft. Pioneer 10 also reported the amount of hydrogen and helium in the planet's atmosphere. In addition, the probe discovered that Jupiter has an enormous magnetosphere.

Pioneer-Saturn flew within 27,000 miles (43,000 kilometers) of Jupiter in December 1974. The craft provided close-up photographs of Jupiter's polar regions and data on the Great Red Spot, the magnetic field, and atmospheric temperatures.

Voyager 1 and Voyager 2 flew past Jupiter in March and July 1979, respectively. These craft carried more sensitive instruments than did the Pioneers, and transmitted more information. Astronomers used photos taken by the Voyagers to make the first detailed maps of the Galilean satellites. The Voyagers also revealed sulfur volcanoes on Io, discovered lightning in Jupiter's clouds, and mapped flow patterns in the cloud bands.

Ulysses was launched in October 1990 and passed by Jupiter in February 1992. The European Space Agency, an organization of Western European nations, had built the probe mainly to study the sun's polar regions. Scientists used the tremendous gravitational force of Jupiter to put Ulysses into an orbit that would take it over the sun's polar regions. As Ulysses passed by Jupiter, it gathered data indicating that the solar wind has a much greater effect on Jupiter's magnetosphere than earlier measurements had suggested.

Galileo began its journey to Jupiter in October 1989. The craft released an atmospheric probe in July 1995. In December 1995, the probe plunged into Jupiter's atmosphere. It penetrated deep into the cloud layers. One of Galileo's missions was to measure the amount of water and other chemicals in Jupiter's atmosphere.

Also in December 1995, Galileo went into orbit around Jupiter. Its first task was to record on tape the data transmitted by the probe, then relay the data to Earth. It then monitored Jupiter's atmosphere, and it observed the planet's major satellites. Galileo was designed to orbit Jupiter for two years, and the craft completed this mission in December 1997. Next, it carried out an extended mission that ended in December 1999. Galileo then continued its observations under an extension known as the Galileo Millennium Mission.

Peter J. Gierasch and Philip D. Nicholson

Related articles in *World Book* include:

Cassini, Giovanni Domenico	Planet
Callisto	Satellite (pictures; Types of satellites)
Europa	Solar system
Galileo	Voyager
Ganymede	
Io	

Additional resources

Beebe, Reta. *Jupiter.* 2nd ed. Smithsonian Institution, 1997.
Kerrod, Robin. *Jupiter.* Lerner, 2000. Younger readers.

Jupiter was king of the gods and ruler of the universe in Roman mythology. He is also called Jove. Jupiter was originally the god of the sky and of such atmospheric phenomena as thunder and lightning. He used a thunderbolt as a weapon, and he had the power to send the earth clear weather, rain, or destructive storms. Jupiter made certain that mortals lived out their lives according to fate. He had the same powers as the Greek god Zeus.

Jupiter was a son of Saturn—the son of the earth and sky and ruler of the universe. Jupiter and Saturn's other children overthrew him, and Jupiter took Saturn's place. Jupiter's brothers were the gods Neptune and Pluto. His sisters were the goddesses Ceres, Juno, and Vesta.

Jupiter married Juno, who became queen of the gods. But he had many mistresses, both goddesses and mortals. Juno was jealous and persecuted Jupiter's lovers. The children of Jupiter and Juno included the gods Mars and Vulcan. Jupiter's other children included the gods Apollo, Bacchus, and Mercury; the goddess Diana; and the hero Hercules. Jupiter also was the father of the nine Muses, who inspired art, poetry, and learning. According to some myths, the goddess Minerva sprang full grown from Jupiter's head.

The religious center of Rome was Jupiter's temple on the Capitoline Hill. The temple had shrines to Jupiter, Juno, and Minerva. These three *deities* (gods or goddesses) became known as the *Capitoline triad.* Jupiter's symbols were the oak tree, eagle, and thunderbolt. The largest planet is named for him. E. N. Genovese

See also **Mythology** (Frazer's theory); **Zeus; Juno.**

Jura, *JOO ruh,* is a mountain range that lies between the Rhine and Rhône rivers. It is crossed by the border between Switzerland and France (see **Switzerland** [terrain map]). The Jura is about 160 miles (260 kilometers) long. The highest peaks are less than 6,000 feet (1,800 meters) above sea level. Forests once covered the Jura. Today, much of the upper slopes are still forested. Land on the middle and lower slopes of the range serves as pasture for the important dairy industry. Economic centers of the Jura include the towns of Pontarlier, France; and La Chaux-de-Fonds, Switzerland—both noted for making clocks and watches. Tourism also is important to the region's economy. Howell C. Lloyd

Jurisprudence. See **Law** (Ancient Roman law).

Jury is a group of citizens who hear the testimony in legal disputes and determine what they believe is the truth. In the United States, the law provides for three types of juries: (1) petit, (2) grand, and (3) coroner's.

Petit juries. A petit, or petty, jury is a trial jury and the most common form of jury. In a civil lawsuit, a petit jury decides who is at fault and how much money must be paid in damages. In a criminal trial, the jury decides whether the defendant is or is not guilty. The jury hears testimony by witnesses, then the lawyer for each side summarizes the case. In a *charge to the jury,* the judge explains the laws that apply. Finally, the jury discusses the case and reaches a verdict.

If the jurors are not convinced "beyond a reasonable doubt" that a defendant is guilty, they must *acquit* him or her—that is, return a verdict of not guilty. Traditionally, the jurors must reach a unanimous verdict. However, some states accept a specified majority vote. Until about 1970, juries consisted of 12 members and 1 or 2 alternate jurors. Today, some states use juries of as few as 6 members. A *hung jury* is one in which the required number of jurors cannot agree on a verdict. A new trial—with new jurors—is held in such cases.

The court selects the names of possible jurors from such sources as tax rolls, voting lists, and telephone directories. From the selected names, people are then chosen by lot and summoned for possible service on a jury. Before becoming a jury member, a person is questioned by the trial judge, the opposing lawyers, or both. This procedure is known as the *voir dire.* The attorneys may reject any person *for cause.* They do so by stating why a person should not serve as a juror. For example, the person may be related to someone involved in the case. The lawyers are also allowed a limited number of rejections called *peremptory challenges.* Lawyers need give no reason for making these challenges. But a new trial may be ordered if a judge decides that the lawyers have made their challenges solely on account of race.

The U.S. Constitution provides that jurors in a criminal trial must be neutral regarding the case. In most situations, the jurors are selected from the community where the supposed crime occurred. An accused person may choose to be tried by a judge without a jury.

Grand juries consist of from 16 to 23 members in most states. There are two kinds of grand juries in the United States, *charging* and *investigatory.* A charging grand jury decides whether there is enough evidence to try a person suspected of a crime. If the jury finds sufficient evidence, it makes a formal accusation, called an *indictment,* against the person. The suspect is then tried by a petit jury. An investigatory grand jury investigates (1) suspected dishonesty of public officials and (2) possible crime, especially organized crime.

Coroner's juries. A coroner's jury conducts an *inquest* (study) into the cause of death in cases that involve doubt. Most coroner's juries consist of six members.

History. During the A.D. 800's, people in many European communities testified to a representative of the king about such matters as taxes and land boundaries. In the late 1100's, jurors acted as witnesses and described events. By the 1700's, jurors were judging the evidence of others. Jack M. Kress

See also **Court; Grand jury; Indictment; Judge; Trial.**

Just, Ernest Everett (1883-1941), an American biologist, received the first Spingarn Medal, which is awarded annually to a black who has had outstanding achievement in his or her field. When he won the award in 1915, he was studying fertilization in marine invertebrates and the role of the cell surface in the development of such organisms. Just's research led him to declare that all parts of a cell influence the cell's activities. This idea differed from the traditional belief that only the nucleus of the cell controlled cell activity.

Just was born Aug. 14, 1883, in Charleston, South Carolina. In 1907, he earned a bachelor's degree from Dartmouth College and began teaching at Howard University. He received a doctor's degree from the University of Chicago in 1916. From 1909 through 1930, Just spent almost every summer conducting research at the Marine Biological Laboratory in Woods Hole, Massachusetts. He spent most of the last 10 years of his life working in Europe to escape racial discrimination in American laboratories. In 1939, he published two books: *The Biology of the Cell Surface* and *Basic Methods for Experiments on Eggs of Marine Animals.* Kenneth R. Manning

Justice. See **Judge; Justice of the peace; Law; Supreme Court of the United States.**

Justice, Department of, is an executive department of the United States government. It enforces federal laws and provides legal advice for the president and the heads of the government's other executive departments. The attorney general, a member of the president's Cabinet, heads the department and ranks as the government's chief legal officer. The president appoints the attorney general with U.S. Senate approval.

In 2002, President George W. Bush proposed a reorganization of the federal government with an emphasis on protection against terrorism. Under Bush's plan, some of the agencies of the Department of Justice would be transferred to a newly created Department of Homeland Security.

Functions. The Department of Justice investigates and prosecutes violations of federal laws. These laws include antitrust, criminal, environmental, and civil rights laws. The department also administers federal prisons. In addition, it represents the federal government in the U.S. Supreme Court and in other federal courts. A Justice Department official known as the solicitor general supervises this representation in Supreme Court cases.

Important agencies of the Justice Department include the Federal Bureau of Prisons, the Drug Enforcement Administration, the Federal Bureau of Investigation (FBI), and the Immigration and Naturalization Service. The Bureau of Prisons oversees federal prisons and supervises the custody of all federal prisoners. The Drug Enforcement Administration enforces federal laws and regulations that apply to narcotics and other dangerous drugs. The FBI investigates federal crimes and collects evidence in lawsuits that involve the federal government. It also gathers information about individuals and groups that it believes are dangerous to national security. The Immigration and Naturalization Service administers and enforces U.S. immigration laws.

The Department of Justice also includes the Bureau of Justice Statistics and the National Institute of



The seal of the Department of Justice

Justice. These agencies support police programs that are designed to prevent and control crime in the United States. The agencies provide this support mainly by researching and analyzing various aspects of crime and the U.S. criminal justice system.

History. Congress set up the office of the Attorney General in 1789. The attorney general served in the Cabinet but did not head an executive department. The attorney general advised the president and represented the federal government in cases before the Supreme Court. Almost every federal department had some part in enforcing national laws. In 1870, Congress set up a new Department of Justice under the attorney general. The new department took over most law-enforcement duties from the other departments.

Critically reviewed by the Department of Justice

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Independent counsel
Ness, Eliot
Prisons, Federal Bureau of

Justice of the peace is an officer of a township, county, or other small unit of government in some states. Justices of the peace have limited judicial powers. They usually hear civil cases that involve small sums of money. Justices of the peace may be appointed by the governor or elected by the people.

The powers of a justice of the peace vary in different states. Justices of the peace may have the power to punish people for breaking minor criminal laws, such as traffic laws. They do not usually have power to hear serious criminal cases. Sometimes they decide whether an accused person should be held for a grand jury, which then will decide whether the person should stand trial.

Attorneys general of the United States

Name	Took office	Under President	Name	Took office	Under President
*Edmund Randolph	1789	Washington	William H. H. Miller	1889	B. Harrison
William Bradford	1794	Washington	Richard Olney	1893	Cleveland
Charles Lee	1795	Washington, J. Adams	Judson Harmon	1895	Cleveland
Levi Lincoln	1801	Jefferson	Joseph McKenna	1897	McKinley
John Breckinridge	1805	Jefferson	John W. Griggs	1898	McKinley
Caesar A. Rodney	1807	Jefferson, Madison	Philander C. Knox	1901	McKinley, T. Roosevelt
William Pinkney	1811	Madison	William H. Moody	1904	T. Roosevelt
Richard Rush	1814	Madison, Monroe	Charles J. Bonaparte	1906	T. Roosevelt
William Wirt	1817	Monroe, J. Q. Adams	George W. Wickersham	1909	Taft
John M. Berrien	1829	Jackson	James C. McReynolds	1913	Wilson
*Roger B. Taney	1831	Jackson	Thomas W. Gregory	1914	Wilson
Benjamin F. Butler	1833	Jackson, Van Buren	*A. Mitchell Palmer	1919	Wilson
Felix Grundy	1838	Van Buren	Harry M. Daugherty	1921	Harding, Coolidge
Henry D. Gilpin	1840	Van Buren	*Harlan F. Stone	1924	Coolidge
John J. Crittenden	1841	W. H. Harrison, Tyler	John G. Sargent	1925	Coolidge
Hugh S. Legaré	1841	Tyler	William D. Mitchell	1929	Hoover
John Nelson	1843	Tyler	Homer S. Cummings	1933	F. D. Roosevelt
John Y. Mason	1845	Polk	Frank Murphy	1939	F. D. Roosevelt
Nathan Clifford	1846	Polk	*Robert H. Jackson	1940	F. D. Roosevelt
Isaac Toucey	1848	Polk	Francis Biddle	1941	F. D. Roosevelt, Truman
Reverdy Johnson	1849	Taylor	*Tom C. Clark	1945	Truman
John J. Crittenden	1850	Fillmore	J. Howard McGrath	1949	Truman
Caleb Cushing	1853	Pierce	James P. McGranery	1952	Truman
Jeremiah S. Black	1857	Buchanan	Herbert Brownell, Jr.	1953	Eisenhower
*Edwin M. Stanton	1860	Buchanan	William P. Rogers	1957	Eisenhower
Edward Bates	1861	Lincoln	*Robert F. Kennedy	1961	Kennedy, L. B. Johnson
James Speed	1864	Lincoln, A. Johnson	Nicholas Katzenbach	1965	L. B. Johnson
Henry Stanbery	1866	A. Johnson	*Ramsey Clark	1967	L. B. Johnson
*William M. Evarts	1868	A. Johnson	John N. Mitchell	1969	Nixon
Ebenezer R. Hoar	1869	Grant	Richard G. Kleindienst	1972	Nixon
Amos T. Akerman	1870	Grant	*Elliot L. Richardson	1973	Nixon
George H. Williams	1871	Grant	William B. Saxbe	1974	Nixon, Ford
Edwards Pierrepont	1875	Grant	Edward H. Levi	1975	Ford
Alphonso Taft	1876	Grant	Griffin B. Bell	1977	Carter
Charles Devens	1877	Hayes	Benjamin R. Civiletti	1979	Carter
I. Wayne MacVeagh	1881	Garfield, Arthur	William French Smith	1981	Reagan
Benjamin H. Brewster	1881	Arthur	Edwin P. Meese III	1985	Reagan
Augustus H. Garland	1885	Cleveland	Richard L. Thornburgh	1988	Reagan, G. H. W. Bush
			William P. Barr	1991	G. H. W. Bush
			*Janet Reno	1993	Clinton
			John D. Ashcroft	2001	G. W. Bush

*Has a separate biography in *World Book*.

Justices of the peace also may be empowered to perform marriage services. The trend has been to abolish this office and transfer its functions to other courts. In large cities, police magistrates perform the same functions as justices of the peace. Jack M. Kress

Justin the Martyr, Saint (100?-165?), was the first prominent defender of the Christian faith against non-Christians. Justin is known as an *apologist* because he defended Christian beliefs and practices against suspicions and false accusations made by non-Christians.

Justin's surviving writings use Greek philosophical ideas to explain Christian theological doctrines. His writings also provide descriptions and explanations of Christian life and worship. In two theological essays called *Apologies,* Justin defended Christians against charges of atheism, sexual immorality, and disobedience to civil authority. Justin attempted to show that Christianity was superior to other religions and that Christians led pious lives.

Justin was born into a Greek family in what is now Nablus, in the West Bank region of southwest Asia. He tried various Greek and Roman philosophies before converting to Christianity in about 130. In the *Dialogue with Trypho,* Justin gave an account of his conversion. By about 150, Justin was teaching Christian philosophy in Rome. He was beheaded in Rome because he was a Christian. Christianity was an outlawed religion at that time. Richard R. Ring

Justinian I, *juhs TIHN ee uhn* (A.D. 482-565), was the *Byzantine* (East Roman) emperor from A.D. 527 until his death. He is famous for his law code, his buildings, and his conquests. Justinian collected Roman laws under one code, the *Corpus Juris Civilis* (Body of Civil Law). This code, also called the *Justinian Code,* is the basis of the legal systems in many nations today.

Justinian was born in what is now the country of Macedonia. His uncle, Emperor Justin I, made him coruler in 527. Justin died a few months later, and Justinian became sole emperor of the Byzantine Empire. During Justinian's reign, his wife, Theodora, tried to influence his policies (see **Theodora**). Justinian's rule was tyrannical. He was an orthodox Christian, and he persecuted Christian *heretics* (those who opposed church teachings), Jews, and *pagans* (non-Christians). In 529, he closed the schools of philosophy in Athens, Greece, because he felt the schools taught paganism.

In 532, people in Constantinople revolted against Justinian and burned down the central part of the city. Justinian rebuilt the city, including a new church, the famous Hagia Sophia. He also built aqueducts, fortresses, harbors, churches, monasteries, and public buildings all over the empire.

In 533, Justinian began a series of wars against the Vandals, Ostrogoths, and Visigoths, who had conquered most of the West Roman Empire in the 400's. His armies conquered North Africa, Italy, and parts of Spain. But the cost of these wars almost ruined the empire.
Clive Foss

See also **Byzantine Empire** (The empire under Justinian); **Justinian Code; Silk** (Silk making spreads).

Justinian Code, *juhs TIHN ee uhn,* was a collection of early Roman laws and legal principles. The collection is also called the *Corpus Juris Civilis* (Body of Civil Law). The code was drawn up by a committee of leading lawyers who were appointed by Emperor Justinian I in A.D. 528 (see **Justinian I**). The code clarified Roman laws and legal principles and illustrated them by cases. The code has served as a basis for the law codes of many countries. It is recognized as one of the greatest Roman contributions to civilization.

The Justinian Code was divided into four parts. The *Codex* consisted of a collection of imperial statutes. The *Digest* contained interpretations of many trials and decisions by lawyers of the A.D. 100's and 200's. The *Institutes* formed a handbook for students and lawyers. The *Novels* were collections of legislation enacted after the publication of the *Codex.* Clive Foss

See also **Law** (table: How laws have varied through the ages).

Jute, *joot,* is a long, soft, shiny fiber that can be spun into coarse, strong threads. It is one of the cheapest natural fibers, and is second only to cotton in amount produced and variety of uses. Jute fibers are composed primarily of the plant materials cellulose, lignin, and pectin. Both the fiber and the plant from which it comes are commonly called *jute.*

Jute is used chiefly to make cloth for wrapping bales of raw cotton, and to make gunny sacks and gunny cloth. The fibers are also woven into curtains, chair coverings, carpets, and burlap. But in many of these uses, synthetic materials are replacing jute. Very fine threads of jute are made into imitation silk. The fibers are used alone or blended with other types of fibers to make twine and rope. Jute butts, the coarse ends of the plants, are used to make inexpensive cloth.

Jute is a rainy season crop that grows best in warm, humid climates. China, India, and Bangladesh rank as the world's main producers of jute. Jute is *graded* (rated) according to its color, strength, and fiber length. The fibers are off-white to brown and 3 to 15 feet (0.9 to 4.5 meters) long. Jute is pressed into bales for shipment to manufacturers. Christine W. Jarvis

Scientific classification. Jute belongs to the basswood family, Tiliaceae. Its scientific name is genus *Corchorus.*

See also **Burlap; Bangladesh** (picture: The processing of jute).

Jutes, *joots,* were members of one of three tribes that conquered most of England between about A.D. 450 and the late 500's. The other tribes were the Saxons and the Angles (see **Anglo-Saxons**). These three tribes were Germanic or Teutonic, and they were thought to have come from what is now Denmark and northern Germany. The Jutes settled in parts of southeastern Britain that are now known as Kent, southern Hampshire, and the Isle of Wight.

Much of the information about the Jutes in England comes from *Ecclesiastical History of the English People* (731), a book by the English historian Saint Bede. Archaeological findings have shown that the Jutes had much in common with both the Saxons in Britain and the ancient Franks, a people of what are now Belgium, France, western Germany, and the Netherlands. Some historians say the Jutes came from the area of Denmark known today as Jutland. C. Warren Hollister

Jutland, Battle of, was the only major fight between German and British fleets during World War I. On May 31, 1916, the British fleet, commanded by Admiral John Jellicoe, and the German fleet, under Vice Admiral Rein-

hard Scheer, met off the coast of Denmark in a two-day battle. Although the Germans destroyed more British ships, they lost a greater percentage of their smaller navy. Both sides claimed victory, but the battle left Britain in control of the seas. See also **Jellicoe, John Rushworth; World War I** (The war at sea). Ian F. W. Beckett

Juvenal, *JOO vuh nuhl* (A.D. 60?-130?), was a Roman poet known for his 16 biting satires. These pieces ridicule the extravagance, corruption, and immorality he saw in Rome. Juvenal excelled in writing short, stinging character sketches. He had a marvelous eye for detail and a keen ear for people's speech. Juvenal thought society should be run by men, like himself, of the old upper class who were of Italian birth. He hated the success of foreigners and the new freedom of women.

Juvenal's 3rd and 10th satires are his best known and have often been imitated. The 3rd satire attacks Rome because it is noisy, uncomfortable, dangerous, and full of criminals and foreigners. His mildest satire, the 10th, shows the dreadful consequences of seeking beauty, power, or material success. It urges the reader to desire only "a sound mind in a sound body"—that is, a healthy and simple life. Juvenal's work strongly influenced English writers of the 1700's, especially Samuel Johnson (see **Johnson, Samuel** [Early years]).

Juvenal was born in the town of Aquinum in central Italy. His full name in Latin, the language of ancient Rome, was Decimus Junius Juvenalis. Elaine Fantham

Juvenile court is a special court that handles cases involving children who have committed crimes or who need the care and protection of society. Most juvenile courts deal with cases of *delinquency* and *neglect.* Most delinquency cases involve children who have broken the law or who are difficult to control. Neglect cases involve children whose parents do not or can not care for them properly. Both the United States and Canada have extensive juvenile court systems.

In the United States, most states include the juvenile court as a division of the main state court or of the county court. Most juvenile courts handle the cases of youths who are under 18 years of age. Other juvenile courts deal with youths only up to age 17. But some serious cases involving children as young as 11 may be transferred to an adult court for trial. Juveniles charged with delinquency may be held in temporary confinement until their cases are heard in court. Juvenile courts generally cannot issue sentences that would confine youths beyond the age of 21.

Before the establishment of juvenile courts, judges tried children for lawbreaking in the same way that they tried adults, and they sentenced many to prison.

Juvenile courts were the result of a change in attitudes toward child offenders during the late 1800's. According to these new attitudes, the juvenile courts were to be places to help, not punish, children. Children were not supposed to experience the harsh atmosphere and treatment often found in adult courts. Instead, trained social workers were to give the judge information on the child's background, and the judge would freely discuss problems with the child, usually in a private hearing. The judge then was supposed to reach a decision based on the child's best interests. This decision could result in a warning, a fine, probation, or referral or transfer to another agency. The child could be confined in a training school, learning center, or reformatory.

In 1872, Massachusetts became the first state to provide separate court sessions for children. In 1899, Colorado and Illinois authorized separate children's courts. By 1925, all but two states had juvenile courts.

In 1967, the Supreme Court of the United States issued a landmark decision regarding juvenile courts. In the *Gault* decision, the court ruled that the private and informal procedures used by juvenile courts had deprived many children of certain rights guaranteed by the Constitution. It ruled that children must be granted these rights, including (1) the right of children and their parents to be given adequate notice of the specific charge; (2) the right to have a lawyer in any case which may result in confinement; (3) the right to question witnesses; and (4) the right to remain silent.

Also in 1967, a special presidential commission reported that juvenile courts had failed in their efforts to decrease juvenile delinquency. Since then, juvenile courts have used an approach much like that used in adult criminal courts. However, there is more emphasis on rehabilitation in the juvenile courts than in the adult correctional system.

In Canada, a separate, nationwide court system for juvenile offenders was established by the Juvenile Delinquent Acts of 1908. Today, individual provinces have special juvenile courts that operate under the federal Young Offenders Act of 1984. Under this act, youths up to age 18 are treated as juveniles, while children under 12 are freed from any criminal responsibility. Judges may not impose sentences longer than three years, although the combined duration of consecutive sentences may exceed three years. However, judges also have authority to transfer to the adult courts those youths accused of more serious crimes. Juveniles guilty of less serious offenses, such as shoplifting or vandalism, may avoid the court process altogether by participating in such activities as community work, counseling, or repayment of victims. Jack M. Kress

See also **Juvenile delinquency.**

Juvenile delinquency usually refers to the violation of a law by a juvenile. It includes those acts that would be crimes if committed by adults, such as automobile theft and burglary, and also those acts that are illegal only for boys or girls, such as staying out after a curfew or drinking alcoholic beverages. Many people use the term *juvenile delinquency* to include anything youngsters do that goes against the standards of society, regardless of whether this action is legal or illegal.

The legal age at which a person is considered to be a juvenile varies from place to place. Most states in the United States define anyone under 18 years of age as a juvenile. New York considers anyone under 17 a juvenile. In Canada, juveniles may be those under the age of 16. Most states allow youngsters who are young enough for juvenile-court handling to be tried by regular criminal courts under certain circumstances.

Juvenile delinquency is regarded as a serious social problem in the United States and many other countries. It has caused increasing public concern, but it is by no means a new problem. Young people formed violent street gangs in American cities during the 1800's, and delinquency rates were reported rising during the early 1900's. Delinquency is found in all nations and is partic-

ularly widespread in highly industrialized nations that have large cities.

What is a juvenile delinquent?

The legal term *juvenile delinquent* was established so that young lawbreakers could avoid the disgrace of being classified in legal records as criminals. Juvenile delinquency laws were designed to provide treatment, rather than punishment, for juvenile offenders. Young delinquents usually are sent to juvenile courts, where the main aim is to *rehabilitate* (reform) offenders, rather than to punish them. But the term *juvenile delinquency* itself has come to imply disgrace.

A youngster can be labeled a delinquent for breaking any one of a number of laws, ranging from robbery to running away from home. But an action for which a youth may be declared a delinquent in one community may not be against the law in another community. In some communities, the police ignore many children who are accused of minor delinquencies or refer them directly to their parents. But in other communities, the police may refer such children to a juvenile court, where they may officially be declared delinquents.

Extent of delinquency

Crime statistics, though they are often incomplete and may be misleading, do give an indication of the extent of the delinquency problem. The Federal Bureau of Investigation (FBI) reports that in the early 1990's, nearly half of all U.S. arrests for motor vehicle theft and *arson* (the causing of fires) were of people under age 18. Juveniles also accounted for about one-third of all arrests for *larceny* (theft).

In any year, about 4 percent of all children between the ages of 10 and 18 appear in a juvenile court. The percentage of this age group who are sent to court at least once is much higher. A third or more of those boys living in slum areas of large cities may appear in court at least once.

Girls are becoming increasingly involved in juvenile delinquency. Today, about 1 of every 5 youngsters appearing in juvenile court is a girl. In the early 1900's, this ratio was about 1 girl to every 50 or 60 boys.

Sociologists have conducted a number of studies to determine how much delinquency is not reported to the police. Most youngsters report taking part in one or more delinquent acts, though a majority of the offenses are minor. Experts have concluded that youthful misbehavior is much more common than is indicated by arrest records and juvenile court statistics.

What causes delinquency?

Many studies have been made in an effort to determine the causes of delinquency. Most of these have focused on family relationships or on neighborhood or community conditions. The results of these investigations have shown that it is doubtful that any child becomes a delinquent for any single reason.

Family relationships, especially those between parents and individual children, have been the focus of several delinquency studies. An early study comparing delinquent and nondelinquent brothers showed that over 90 percent of the delinquents had unhappy home lives and felt discontented with their life circumstances. Only 13 percent of their brothers felt this way. Whatever the nature of the delinquents' unhappiness, delinquency appeared to them to be a solution. It brought attention to youths neglected by their parents, or approval by delinquent friends, or it solved problems of an unhappy home life in other ways. More recent studies have revealed that many delinquents had parents with whom they did not get along or who were inconsistent in their patterns of discipline and punishment.

Neighborhood conditions have been stressed in studies by sociologists. Many of these inquiries concentrate on differing rates of delinquency, rather than on the way individuals become delinquents.

A series of studies have shown that delinquency rates are above average in the poorest sections of cities. Such areas have many broken homes and a high rate of alcoholism. They also have poor schools, high unemployment, few recreational facilities, and high crime rates. Many young people see delinquency as their only escape from boredom, poverty, and other problems.

Social scientists have also studied the influence of other youngsters on those who commit delinquencies. For example, they point out that most youngsters who engage in delinquent behavior do so with other juveniles and often in organized gangs.

Studies indicate that the causes of delinquency also extend to a whole society. For example, delinquency rates tend to be high among the low-income groups in societies where most people are well-to-do. The pain of being poor and living in slum conditions is felt more strongly in a rich society than in a poor one.

Prevention of delinquency

Many efforts have been made to develop programs of delinquency prevention. There is little evidence, however, that any of these programs is truly effective. Some programs provide counseling services to youths who appear to be on the verge of becoming delinquents. Other programs draw youngsters into clubs and recreational centers in an effort to keep them away from situations in which delinquency is likely to occur. In recent years, many efforts have centered on improving the educational and work skills of youngsters.

For those juveniles who have already become delinquents, there are programs designed to prevent them from committing future delinquent acts. Probation services are offered through juvenile courts in an effort to provide guidance for delinquent children. The more progressive institutions for juveniles attempt to provide treatment programs for offenders—work experiences, counseling, education, and group therapy. However, many other institutions provide little more than protective custody for juvenile delinquents. Don C. Gibbons

See also **Gang; Juvenile court; Reformatory.**

Additional resources

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JWB. See **Jewish community centers.**

Kk

K is the 11th letter of our alphabet. It was also a letter in the alphabet used by the Semites, who once lived in Syria and Palestine. They named the letter *kaph,* their word for *palm of the hand.* They probably adapted an Egyptian *hieroglyphic* (picture symbol) of an open hand to represent the letter. The ancient Greeks took the letter into their alphabet and called it *kappa.* They gave it the form that it now has. For more information, see **Alphabet.**

Uses. *K* or *k* is about the 22nd most frequently used letter in books, newspapers, and other printed material in English. *K* is used as an abbreviation for *knight* or *knights,* as in *KC* for *Knights of Columbus* and *K.G.* for *Knights of the Order of the Garter.* Assistants in military kitchens serve on *KP,* or *kitchen police* duty. In chess, *K* stands for *king,* and in chemistry it represents the element *potassium. K* is used as an abbreviation for the *Kelvin* scale of absolute temperatures.

In weights and measures, *k* represents *kilo,* a prefix meaning 1,000. In electricity, it stands for *capacity.* In some countries, *k* represents a unit of money—*krone* in Germany, Denmark, and Norway; *krona* in Sweden; and *kopeck* in Russia.

Pronunciation. In English, a person pronounces *k* in such words as *king* with the tongue back and with its sides touching the velum, or soft palate. The velum is closed, and the vocal cords do not vibrate. The *k* is silent when it appears before *n* at the beginning of a word, as in such words as *knee, knock,* and *know.* See **Pronunciation.**

Marianne Cooley

Development of the letter K



The ancient Egyptians, about 3000 B.C., used a symbol that represented a slightly cupped hand.



The Semites simplified this symbol for their alphabet about 1500 B.C. They named the letter *kaph,* which was their word for *palm of the hand.*



The Phoenicians wrote the letter with three prongs about 1000 B.C.



The Greeks, about 600 B.C., gave the letter the form that is used today. They called the letter *kappa.*



The Romans adopted the Greek letter about A.D. 114.

The small letter k first appeared during the A.D. 800's as a rounded letter. By about 1500, the letter had developed into its present shape.



A.D. 800

k

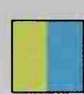
Today

Special ways of expressing the letter K

—•—

International Morse Code

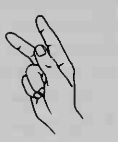
Braille



International Flag Code



Semaphore Code



Sign Language Alphabet

Common forms of the letter K

Kk *Kk*

Handwritten letters vary from person to person. *Manuscript* (printed) letters, *left,* have simple curves and straight lines. Cursive letters, *right,* have flowing lines.

Kk *Kk*

Roman letters have small finishing strokes called *serifs* that extend from the main strokes. The type face shown above is Baskerville. The italic form appears at the right.

Kk *Kk*

Sans-serif letters are also called *gothic letters.* They have no serifs. The type face shown above is called Futura. The italic form of Futura appears at the right.

K

Computer letters have special shapes. Computers can "read" these letters either optically or by means of the magnetic ink with which the letters may be printed.

K2, also called Mount Godwin Austen or Dapsang, is the world's second highest mountain. Only Mount Everest is higher. K2 is located in the Karakoram, or Mustagh, Range in northern Kashmir (see **Himalaya; Asia** [terrain map]). The peak, which reaches 28,250 feet (8,611 meters), is snow-covered and usually hidden in clouds. There are glaciers 30 and 40 miles (48 and 64 kilometers) long on its flanks. The mountain originally was named for Henry Haversham Godwin Austen (1834-1923), an Englishman who surveyed it in the late 1850's. He called it K2, and it is now known by that name. An Italian expedition reached the top of the mountain for the first time in July 1954. The expedition was led by Ardito Desio. See also **Mountain** (diagram: Major mountains).

James A. Hafner

Kaaba, *KAH buh,* also spelled Caaba, is the most sacred shrine of Islam. It is a small, cube-shaped building with a flat roof near the center of the Great Mosque in Mecca. Muslims everywhere turn their faces toward the Kaaba when they pray. The famous Black Stone, enclosed in a silver ring, rests in the eastern corner of the Kaaba.

According to Muslim tradition, the Kaaba was originally built by Abraham and Ishmael (also called Ibrahim and Isma'il), and the Black Stone was given to Abraham by the angel Gabriel. The Kaaba is the chief goal of the annual pilgrimage of Muslims. Pilgrims run and walk around it seven times, praying and reciting verses from the Quran. They touch or kiss the stone to end the ceremony. Richard C. Martin

Kabbalah, *kab uh LAH,* is the traditional name for the teachings of Jewish mysticism. The term—also spelled *Cabala, Kabala,* or *kabbala*—means *what is handed down or received* in Hebrew.

The teachings of Kabbalah date back nearly 2,000 years. The early writings describe the wondrous journeys of sages who ascend through heavenly palaces filled with angels to behold the Divine Presence on His throne. Other early works explore the secrets of creation as well as magical formulas and practices.

The greatest period of Kabbalah came in the Middle Ages, reaching its peak in the 1200's in Spain. There, a mystic named Moses de Leon "discovered" and published the Zohar (Book of Splendor). Although de Leon and his followers claimed the Zohar was written by an ancient sage named Simeon bar Yohai, most modern scholars believe de Leon was the author. In vivid detail, the Zohar spells out the different aspects of God. These aspects consist of qualities such as Beauty, Glory, Judgment, and Mercy that are called *Sefirot* (Emanations). The Zohar urges believers to study and meditate on these Sefirot. The book also stresses religious observances and ethical deeds.

A second important center of Kabbalah arose in Palestine (now Israel) in the early 1500's. Building on the Zohar's teachings, a Jerusalem-born rabbi named Isaac Luria taught what he called the doctrine of *Tikkun* (repair). Luria instructed his followers that strict observance of Jewish law, understood mystically, could release sparks of imprisoned divine light and hasten the coming of the Messiah.

The last major flowering of Kabbalah came in Hasidism, a mystical movement that began in the 1700's in Poland and spread throughout Jewish eastern Europe. Hasidism emphasizes prayer and song and other religious experiences as a way of communing with God.

Some people associate Kabbalah with fantastic interpretations of the hidden meanings of numbers and letters in the Bible and with miraculous acts. However, these elements play a smaller role in Kabbalah than popularly supposed. David Stern

See also **Hasidism.**

Kabuki. See **Japan** (Theater; picture: Kabuki); **Drama** (Asian drama; picture).

Kabul, *KAH bool* (pop. 1,036,407), is Afghanistan's capital and largest city. It sits on the banks of the Kabul River in eastern Afghanistan. The city lies 5,890 feet (1,795 meters) above sea level in the Hindu Kush mountains. For the location of Kabul, see **Afghanistan** (map).

Ancient coins found in Kabul indicate that the city existed during the 500's to the 300's B.C. Various tribes of Afghanistan and other parts of Asia controlled the Kabul area until the A.D. 1700's. Kabul became the capital of Afghanistan in 1776. During a civil war in the 1990's, Kabul was shelled repeatedly by the various factions. Thousands of people in Kabul were killed, and many buildings were destroyed or damaged. The city came under attack again in 2001 when Afghan rebels, aided by United States air strikes, forced Afghanistan's Taliban rulers from power. See **Afghanistan** (History).

Before the wars, Kabul served as a commercial center. It exported many goods produced in Afghanistan, including carpets, skins of Karakul sheep, and fresh and dried fruits and nuts. Kabul's industries made drugs, furniture, machine tools, textiles, and wine. Riffat Sardar

See also **Afghanistan** (picture: Kabul).

Kachina, *kah CHEE nuh,* is the name of a religious ceremony of the Hopi Indians and of carved wooden dolls used in the ceremony. The word is also spelled *Katchina* or *Katcina.* Each winter, the Hopi dedicate services to the spirits of the dead to bring a good harvest. The dolls represent spirits.

See also **Indian, American** (Indians of the Southwest [pictures]); **Doll** (Doll festivals and customs); **Hopi Indians; Mask** (Ceremonial masks); **United States** (The arts [picture]).

Kádár, *KAH dahr,* **János,** *YAH nawsh* (1912-1989), ruled Hungary from 1956 to 1988 as first secretary of the Communist Party. In 1988, party members removed him from the office of first secretary and appointed him to the newly created, largely ceremonial post of president of the Communist Party.

Kádár gained power in 1956, after Soviet troops crushed a revolt by the Hungarian people. He was premier from 1956 to 1958 and from 1961 to 1965.

Kádár was born János Czermanik on May 26, 1912, probably in what is now western Croatia. He became a Communist in the early 1930's. During World War II (1939-1945), Kádár joined the Hungarian underground and fought the Germans. When Communists gained control of Hungary in 1948, Kádár became minister of the interior and chief of the secret police. He was imprisoned from 1951 to 1953 for sympathizing with the Yugoslav Communists, who had split with the Soviet Union. Janusz Bugajski

See also **Hungary** (History).

Kaddafi, Muammar Muhammad al-. See Qadhafi, Muammar Muhammad al-.

Kafir, *KAF uhr,* is the name of a group of grain sorghums imported originally from Africa (see **Sorghum**). Kafirs thrive in the plains region of North America where rainfall is light. These cornlike plants grow 4 to 7 feet (1.2 to 2.1 meters) tall. Their stalks are juicy but not sweet. At the tip of the stalk is a cylinder-shaped seed head. The small, beardless grains may be white, pink, or red. Kafir can be used for silage, or bundled and fed dry to cattle. Donald J. Reid

Scientific classification. Kafirs belong to the grass family, Poaceae or Gramineae. They are varieties of *Sorghum bicolor.*

Kafka, *KAHF kah,* **Franz,** *frahnts* (1883-1924), was a Czech writer who gained worldwide fame only after World War II. Only a few of his short stories were published during his lifetime. Kafka wanted his unpublished manuscripts to be burned after his death, but his friend Max Brod edited and published them anyhow.

Kafka's highly imaginative works have been associated with such intellectual movements as expressionism, surrealism, and existentialism. But he could not identify himself with any particular creed, class, or ethnic group, and his writings do not belong to any particular literary school. Kafka wrote in German.

Kafka's writings uniquely combine a realistic, sometimes grotesquely exact description of details with an overall atmosphere of fantasies, dreams, and nightmares. He portrays objects and events with precision, but they appear to have no purpose or meaning.

Kafka presents a world in which people are deprived of spiritual security, and tortured by anxiety and loneliness. Kafka's characters repeatedly are frustrated in attempts to gain their goals, such as knowledge, social acceptance, or salvation. They represent typical human conditions and attitudes. Their lives are marked by patterns of hope and despair, attempt and failure. They painfully experience their remoteness from a divine authority. This alienation is rooted in personal guilt and at the same time appears as an inescapable destiny.

Kafka wrote three novels and many short stories. In his novel *The Trial* (1925), a man is arrested, convicted, and executed by a mysterious court. His attempts to learn the nature of his guilt and of the secret court fail, and he dies in ignorance. Another novel, *The Castle* (1926), presents the futile struggle of a newcomer to win acceptance in a village and gain entry to a castle, home of an unknown supreme authority. *Amerika* (1927) is a comic novel about the adventures of an adolescent European immigrant in America. Kafka's best-known short stories include "The Judgment," "The Metamorphosis," "In the Penal Colony," and "A Hunger Artist."



Alfred Knopf

Franz Kafka

Kafka was born in Prague of German-speaking Jewish parents. He spent most of his life as a state insurance lawyer. He died of tuberculosis.

Werner Hoffmeister

Additional resources

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Kahlo, Frida (1907-1954), was an important Mexican painter known for her harsh, revealing self-portraits. At the age of 15, she was severely injured in a bus accident in Mexico City. Kahlo lived in constant pain and was crippled for the rest of her life. She underwent about 35 operations, including the amputation of one leg. Unable to pursue her dream of becoming a doctor, Kahlo taught herself to paint. In 1929, she married the famous Mexican artist Diego Rivera. Their stormy relationship involved separations, divorce, and remarriage.

Kahlo's paintings are mostly self-portraits that reflect her physical and emotional suffering. She painted with jarring colors and odd spatial relationships. Many of her pictures include startling symbolic images and elements from Mexican history. She often portrayed herself wearing colorful Mexican Indian costumes and ornaments. Kahlo was born in Coyoacán, southwest Mexico City.

Deborah Leveton

See also **Painting** (Modern Mexican painting; picture: *(Self-Portrait with Thorn Necklace and Hummingbird)*.

Kahn, Louis Isadore (1901-1974), was a major American architect and teacher. He became known for his skillful use of concrete and brick. Kahn developed a the-

ESTO



Louis Kahn's works include the Salk Institute for Biological Sciences in La Jolla, California. This research center, built of concrete and wood, was completed in 1965. It consists of two wings divided by a courtyard.

ory of "served" and "servant" spaces in a building. A structure's "served" spaces are areas where occupants live or work. The "servant" spaces are functional areas, such as stairwells and air ducts. Kahn considered the "servant" areas essential to a building's beauty and creatively incorporated them into his designs.

Kahn's American projects include the Yale University Art Gallery (1953), the Richards Medical Research Building (1961) at the University of Pennsylvania, and the British Art Center (completed in 1977, after his death) at Yale. He also designed a master plan for Dhaka, the capital of Bangladesh. Kahn taught at Yale from 1948 to 1957 and at the University of Pennsylvania from 1957 until his death. As a teacher, he influenced many architects of the middle and late 1900's and his influence continued to grow after his death. His ability to blend historical sources with modern materials is highly influential. Kahn was born in Estonia and came to the United States in 1905. Nicholas Adams

For examples of Kahn's work, see **Architecture** (Architecture today); **Bangladesh** (Government).

Kaiser, *KY zuhr,* was the title used by rulers of the German Empire. *Kaiser* is the German form of the Latin word *caesar* (emperor). German emperors of the Holy Roman Empire sometimes used this title in its German form. Wilhelm I of Prussia took the title of kaiser in 1871, when he became emperor of a united Germany. See also **Wilhelm; Czar; Caesar.** Robert M. Berdahl

Kaiser, *KY zuhr,* **Georg,** *gay OHRKH* (1878-1945), was a German expressionist playwright. His dramas are marked by visions of the renewal and regeneration of humanity. *The Burghers of Calais* (1914) shows how society can be saved through individual sacrifice. The play established Kaiser as a leading expressionist playwright.

Kaiser mixed brief, staccatolike language and impassioned, flowery speeches. His characters tend to be types and abstractions rather than individuals. Characters representing specific attitudes appear in his *Gas* trilogy, which attacks capitalism. The trilogy consists of *The Coral* (1917), *Gas I* (1918), and *Gas II* (1920). Kaiser's play *From Morn to Midnight* (1916) made him famous outside Germany. See **Expressionism.**

Kaiser was born in Magdeburg. When the Nazis seized power in Germany in 1933, they banned his plays. Kaiser then moved to Switzerland. Peter Gontrum

Kaiser, *KY zuhr,* **Henry John** (1882-1967), an American industrialist, attracted national attention during World War II by the speed with which he built ships. He ignored the usual methods of building from the keel up, and used assembly line methods.

Kaiser was born in Sprout Brook, New York. He left school at 13 to go to work. Later, he went to the Pacific Coast, where he became a roadbuilder. Kaiser and Joseph W. Frazer founded the Kaiser-Frazer Corporation to build automobiles in 1946. In 1953, this corporation bought Willys-Overland Motors, Inc., and later stopped making pleasure cars in the United States. Then Kaiser formed Willys Motors (later Kaiser Jeep Corporation) to produce four-wheel-drive vehicles. Kaiser Jeep Corporation was sold to American Motors Corporation in 1969.

Kaiser also had interests in aluminum, aviation, cement, health care, housing, land development, magnesium, and steel. Today, the major Kaiser companies are Kaiser Aluminum and Chemical Corporation, Kaiser Cement and Gypsum Corporation, and Kaiser Steel Corporation. William H. Becker

Kala-azar, *KAH lah ah ZAHR,* is a disease that affects humans and animals. It is caused by a parasite that belongs to *Leishmania,* a group of one-celled organisms. The disease occurs throughout the warmer parts of Asia, the Mediterranean region, and various parts of Africa and South America. In humans it causes fever, anemia, and enlargement of the liver, spleen, and lymph nodes. *Kala-azar* in Hindi means *black fever,* which refers to the darkening of the skin that may occur. It also is known as *dumdum fever,* named after a town in India that has suffered from kala-azar epidemics.

Kala-azar is transmitted by various species of sand flies and commonly affects dogs and rodents. It is usually fatal if untreated. Treatment includes use of the drug stibogluconate. James L. Franklin

Kalaallitt Nunaat. See **Greenland.**

Kalahari Desert, *KAH luh HAHR ee,* is a large, dry sandy basin that covers about 190,000 square miles (500,000 square kilometers) in southern Africa. It spreads across much of Botswana, and parts of Namibia and South Africa.

Like a typical desert, the Kalahari has vast areas of waterless ground surface covered by red sands and hundreds of sand dunes. However, some scientists do not consider the Kalahari a true desert. According to some definitions, a true desert receives less than 10 inches (25 centimeters) of rainfall annually. But many parts of the Kalahari sometimes receive more than that amount of rain. Summer temperatures in the Kalahari average 68 to 86 °F (20 to 30 °C). In winter, the Kalahari has a dry, cold climate with frosts at night. The average low winter temperature can drop below 40 °F (4 °C).

The Kalahari is one of Africa's last wildlife paradises. Animals that live in the region include brown hyenas, lions, meerkats, several species of antelope, and many types of birds and reptiles. Vegetation in the Kalahari consists of dry grassland and scrubby acacias. Grasses thrive in the Kalahari during the summer rainy season.

African people known as the San (or Bushmen) were the first known human inhabitants of the Kalahari. Their survival skills and adaptation to the harsh Kalahari



WORLD BOOK map

The Kalahari Desert stretches across much of Botswana, and parts of Namibia and South Africa. It covers about 190,000 square miles (500,000 square kilometers).



© Michael Fogden, Bruce Coleman Inc.

The Kalahari Desert, in southern Africa, is one of the continent's last wildlife paradises. Antelope, *shown here,* are one of the many types of animals that live in the region.

wilderness have become legendary. Today, only a small number of the San follow their traditional way of life in the Kalahari. See **San**.

Modern civilization is threatening the natural resources of the Kalahari. Mineral companies have discovered large coal, copper, and nickel deposits in the region. In addition, one of the largest diamond mines in the world is at Orapa in the Makgadikgadi, a depression of the northeastern Kalahari. Hartmut S. Walter

Kalb, *kalb* or *kahlp,* **Johann,** *YOH hahn* (1721-1780), was a German-born military officer who served in the American army during the Revolutionary War in America (1775-1783). He became known for his bravery.

Kalb was born on June 29, 1721, in what is now Bavaria, in southern Germany. From 1743 to 1763, he fought in a German regiment in the French Army. In 1777, Kalb traveled to the American Colonies with a group of French soldier adventurers led by the Marquis de Lafayette. The group hoped to help the colonies defeat Britain, France's most important enemy. The Continental Congress made Kalb a major general. But Kalb saw little fighting until 1780. That year, he briefly commanded the American army in the south until Major General Horatio Gates took over. Under Gates, the army suffered a terrible defeat at Camden, South Carolina. Kalb fought brilliantly and bravely, but he was wounded 11 times and died three days later, on Aug. 19, 1780. Charles W. Ingrao

Kale, *kayl,* is a vegetable somewhat like cabbage but with loose, curly leaves instead of a head. These leaves are boiled or steamed and eaten alone or mixed with potatoes. Kale is also called *borecole* and *colewort.* Dwarf kale plants grow about 12 to 15 inches (30 to 38 centimeters) high, while the tall-stem type may reach a height of 24 to 30 inches (61 to 76 centimeters). Kale is grown from seed and thrives in cool weather. In the United States, most of the kale crop matures in fall.

Farmers store the grown plant, with soil attached, in cold frames or hotbeds (see **Cold frame; Hotbed**). The leaves stay green and juicy for several months. Kale has additional value because it is a green vegetable available during winter. Kale provides one of the best sources of vitamins A, B-complex, and C. S. J. Locascio

Scientific classification. Kale belongs to the mustard family, Brassicaceae or Cruciferae. Its scientific name is *Brassica oleracea,* variety *acephala.*

Kaleidoscope, *kuh LY duh skohp,* is a small tube in which you can see beautiful colors and designs. Most kaleidoscopes are from 2 to 3 inches (5 to 8 centimeters) in diameter and about 10 inches (25 centimeters) long. Both ends are closed, but one end has a small peephole through which you can look into the kaleidoscope.

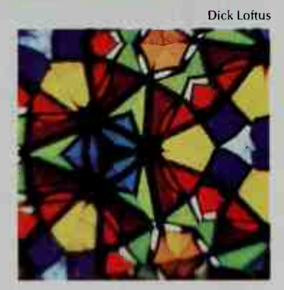
The kaleidoscope works on the principle of multiple reflection. Two mirrors, sometimes made of aluminum, go down the tube and slant toward each other, usually at an angle of 45° or 60°. At the far end of the kaleidoscope are two disks, the one closer to the eyehole made of clear glass and the other of ground glass. Pieces of colored beads and glass are placed between the disks. The beads and glass are reflected in the mirrors. The ground glass throws the reflections in many directions, and patterns are formed. When the kaleidoscope is turned, the beads and glass shift, and the patterns



Debbie Dean



Dick Loftus



A kaleidoscope, *above,* is a tube containing two mirrors and two small plates that hold beads and pieces of colored glass. The mirrors reflect the beads and glass as colorful symmetrical patterns, *right.* These patterns change continuously as the tube is turned. A person looks into the tube through a peephole.

change. Designers have used the kaleidoscope to find new patterns for rugs, wallpaper, and fabrics. Sir David Brewster, a Scottish scientist, invented the kaleidoscope. He patented it in 1817. R. Wayne Schmittberger

See also **Reflection**.

Kaliningrad, *kuh LEE nihn* GRAD (pop. 426,500), is the westernmost port city of Russia. A natural water route connects the city with the Gulf of Gdańsk on the Baltic Sea (see **Poland** [political map]). Kaliningrad serves as an important seaport because its deep harbor remains free of ice the year around. The city's industries include shipbuilding, ship repair, machine building, and fishing. Kaliningrad is the home of the Russian Navy's Baltic Fleet.

The city is the capital of the Kaliningrad Oblast (region), Russia's westernmost territory (see **Russia** [political map]). The oblast is separated from the rest of Russia by Lithuania and Belarus. The Kaliningrad Oblast covers

about 5,830 square miles (15,100 square kilometers). It has one of the world's largest deposits of amber. The oblast also has rich farmland and some oil reserves.

German knights founded the city as a fortress in 1255. It was originally called Königsberg. The city became the cultural and political center of the German state of East Prussia in the 1600's.

Much of the city was destroyed in World War II (1939-1945). The city and surrounding territory became part of the Russian republic of the Soviet Union in 1945. The Soviets renamed the city Kaliningrad in 1946 and rebuilt it. When the Soviet Union dissolved in 1991, Kaliningrad remained part of Russia. Donald J. Raleigh

Kalsomine. See **Calcimine.**

Kamakura period, *KAH muh KOO ruh,* in Japanese history lasted from 1185 to 1333. The *samurai* (warrior class) dominated the imperial government from military headquarters in Kamakura, near Yokohama. Art and literature underwent important developments during the period. Artists erected the *Daibutsu* (Great Buddha) in Kamakura (see **Buddhism** [picture]). See also **Samurai.**

Kamchatka Peninsula, *kam CHAT kuh,* extends southward from eastern Siberia, in Russia, between the Bering Sea and the Sea of Okhotsk. It covers about 135,000 square miles (350,000 square kilometers) and has about 422,000 people (see **Russia** [terrain map]). A range of volcanic mountains runs its length. The peninsula has thick forests. Fishing and hunting are the chief industries. The region provides bear, sable, fox, beaver, otter, and seal fur. Its streams have many salmon. There are several major crab fisheries on its west coast.

About 80 percent of the people living on the peninsula are Russians. The others belong to Siberian tribes and include the Koryak, Even, Chukchi, Itelmen, and Aleut. Petropavlovsk-Kamchatskiy, on the eastern coast, is the capital and chief port. Theodore Shabad

Kamehameha I, *kah MAY hah MAY hah* (1758?-1819), founded the Kingdom of Hawaii. He rose to power through ability and strength. After Kalaniopu'u, the chief of Hawaii, died in 1782, Kamehameha conquered the island. He later won additional victories, climaxed in 1795 by the bloody Battle of Nuuanu Pali on the island of Oahu. Kamehameha used cannons to drive Oahu's defenders over a cliff near Honolulu. He brought the island of Kauai into the kingdom peacefully in 1810.

Kamehameha increased Hawaii's foreign trade. He kept alive the customs and religion of his people but, after his death, missionaries spread Christianity throughout the islands. Kamehameha was born in the Kohala district of the island of Hawaii. He died on May 5, 1819. A statue of him represents Hawaii in Statuary Hall in the U.S. Capitol in Washington, D.C. Donald D. Johnson

See also **Hawaii** (The kingdom of Hawaii); **Honolulu** (picture).

Kamikaze, *KAH mee KAH zee,* was a type of Japanese pilot who flew suicide missions during World War II (1939-1945). The kamikazes dived airplanes loaded with explosives into certain targets, usually American warships. The suicide planes were also called kamikazes.

Japan was desperate when it launched the kamikaze missions. Its military leaders viewed the kamikazes as the last hope of stopping the powerful Allied advance. Fliers volunteered for kamikaze missions because they considered it a privilege to die for their emperor.

The first kamikaze attacks occurred in October 1944, when the Allies invaded the Japanese-held Philippines. More than a thousand kamikazes took part in the defense of Okinawa in 1945. They sank at least 30 vessels and damaged more than 350 others. But the kamikazes failed to sink any large aircraft carriers—their main targets—and in time proved to be a costly failure. They became more important for the kind of resistance they symbolized than for the damage they caused.

The word *kamikaze* means *divine wind.* It originally referred to a typhoon that destroyed a fleet sent by the Mongol conqueror Kublai Khan to attack Japan in 1281. James L. Stokesbury

Kamloops (pop. 77,281) is a city at the junction of the north and south branches of the Thompson River in south-central British Columbia (see **British Columbia** [political map]). The name *Kamloops* comes from an Indian word that probably means *meeting of the waters.* The city is the financial, educational, and transportation center of a farming, logging, and mining region. Fishing, boating, and skiing draw many tourists to Kamloops.

The North West Company and the Pacific Fur Company built trading posts in the Kamloops area in 1812. The gold rush of the 1850's and the completion of the Canadian Pacific Railroad in 1885 stimulated Kamloops's growth. The city was incorporated in 1893. It merged with North Kamloops in 1967. Kamloops has a mayor-council government. Graeme Wynn

Kampala, *kahm PAH luh* (pop. 773,463), is the capital and largest city of Uganda. It lies north of Lake Victoria (see **Uganda** [map]). Kampala is Uganda's chief commercial center and agricultural market. A railroad links the city with Mombasa, Kenya's main port. Kampala is built on and around a series of hills. Makerere University, the Kibuli Mosque, Christian cathedrals, and the palace of the kings of Buganda (a former kingdom) stand atop these hills. Kampala replaced Entebbe as capital when Uganda became independent in 1962. John A. Rowe

Kampuchea. See **Cambodia.**

Kanawha River, *kuh NAW wuh,* is one of the chief waterways of West Virginia. It flows northwest to the Ohio River from the junction of the Gauley and New rivers (see **West Virginia** [terrain map]). The Kanawha is navigable for about 100 miles (160 kilometers), almost its entire length. The land along the river contains deposits of coal, natural gas, and salt. Richard Stark Little

Kanchenjunga, Mount. See **Mount Kanchenjunga.**

Kandahar, *KAN duh hahr,* also spelled *Qandahar* (pop. 191,345), is the second largest city of Afghanistan. Only Kabul, the capital, is larger. Kandahar lies in southern Afghanistan. For its location, see **Afghanistan** (map). The old section of Kandahar includes many ancient buildings and bazaars. The city also has modern sections. Kandahar serves as the center of an important trade route between India, Iran, Pakistan, and Kabul. It also processes and exports fruits grown in the area.

Kandahar existed as early as 1000 B.C. It became the capital of an Afghan empire in A.D. 1747. Ahmad Shah Durrani, the empire's founder, built the modern city of Kandahar in 1761. Kabul became the capital in 1776.

In the 1990's, Kandahar became the headquarters of a conservative, militant Islamic group known as the Taliban. The group ruled most of Afghanistan from the mid-1990's to 2001. See **Taliban.** Riffat Sardar

Kandinsky, *kan DIHN skee,* **Wassily,** *VAS uh lee* (1866-1944), was a Russian artist. He is generally considered to have discovered abstract painting, which has no recognizable subject. Kandinsky believed that painting—like music—is primarily a form of personal expression, rather than a way to tell a story or express an idea.

Kandinsky was born on Dec. 4, 1866, in Moscow. He moved to Munich, Germany, in 1896. In 1911, he and the German artist Franz Marc founded an Expressionist art movement called *Der Blaue Reiter* (The Blue Rider). During this period, Kandinsky painted with bright, pure colors in a free, spontaneous style. His ideas on the expressive qualities of color and form appear in his book *Concerning the Spiritual in Art* (1912). One of Kandinsky's works, *Black Lines,* is reproduced in the **Painting** article.

During World War I (1914-1918), Kandinsky returned to Russia and was a teacher in Moscow. In 1921, he moved back to Germany and his art changed dramatically. His paintings became more ordered, geometric, and completely abstract. From 1922 to 1933, he taught the theory of form at the Bauhaus school of design in Germany. He described his ideas from this period in his book *Point and Line to Plane* (1926). Kandinsky's paintings and theories made him a forerunner of the Abstract Expressionist movement that flourished in New York City during the 1940's and 1950's. He died on Dec. 13, 1944.

Pamela A. Ivinski

See also **Painting** (Expressionism).



Oil painting on canvas (1926); The Solomon R. Guggenheim Museum, New York City

Kandinsky's *Calm, No. 357* was one of the abstract geometric compositions that the artist began painting during the 1920's.

Kane, Paul (1810-1871), was the first artist to paint an extensive record of Indian life in western Canada. From 1841 to 1845, he studied art in Europe. While in England, Kane was inspired by pictures of Indians painted by the American artist George Catlin. With financial support from the Hudson's Bay Company, Kane traveled across Canada, sketching and painting Indians and Indian life. Several of Kane's paintings appear in the **Indian, American** article.

In 1855, Kane completed a cycle of 100 paintings. These paintings were donated to the Royal Ontario Museum in Toronto. Kane also published an illustrated book, *Wanderings of an Artist Among the Indians of North America* (1859).

Kane was born on Sept. 10, 1810, in County Cork, Ireland. He came to York (now Toronto) about 1819. He died on Feb. 20, 1871. David Burnett

See also **Canada, History of** (picture: The fur trade).

Kanem, *KAHN ehm,* was one of Africa's longest-lasting empires. It originated as a small kingdom in the area north of Lake Chad in about the 700's. Kanem gradually grew into an empire and lasted until the 1800's. The early kingdom engaged in trans-Saharan trade with Muslim North Africa. The profits from this trade helped Kanem expand and conquer other kingdoms and territories. Cloth, copper, glass, and horses from North Africa and the Mediterranean region were traded in Kanem's markets for ivory, leather goods, and slaves. At its height, Kanem included parts of what are now Cameroon, Chad, Libya, Niger, Nigeria, and Sudan.

The Sefuwa royal family ruled Kanem from the 800's to the 1800's. The rulers converted to Islam in 1086. They began to expand their territory at about the same time. After Bornu, on the southwest side of Lake Chad, became a province of Kanem, the empire was often called Kanem-Bornu. In the late 1300's, Bulala people conquered the part of Kanem on the northeast side of Lake Chad, and the emperor fled to Bornu. Mai Idris Alooma, who ruled from 1580 to 1617, reconquered the lost territory and extended the empire to its greatest size.

Starting in the 1600's, Kanem began to decline because trade centers shifted from inland routes to the coast. European powers gained control of Kanem in the late 1800's. Kevin C. MacDonald

Kangaroo is a type of furry mammal that hops on its hind legs. Kangaroos are *marsupials*—mammals that give birth to extremely undeveloped offspring. The young of kangaroos complete their development in a pocketlike pouch on the belly of the mother.

Kangaroos belong to a group of marsupials known as *macropods.* Other macropods include such animals as bettongs, potoroos, rat-kangaroos, and wallabies. The word *macropod* means *large foot.* Most macropods have long hind legs and feet and small front legs. There are about 55 species of macropods, and all of them are native to Australia, New Guinea, or nearby islands.

The two main types of kangaroos are the *red kangaroo* and the *gray kangaroo.* The red kangaroo inhabits the deserts and dry grasslands of central Australia. It is the best-known and most studied macropod. Gray kangaroos are found in the forests and grasslands of southern and eastern Australia. There are two species, the *eastern gray kangaroo* and the *western gray kangaroo.*

The body of a kangaroo. Adult male kangaroos stand about 6 feet (1.8 meters) tall and may weigh more than 100 pounds (45 kilograms). Female kangaroos are somewhat smaller than the males. For example, most female red kangaroos stand about 4 $\frac{1}{2}$ feet (1.4 meters) high and weigh less than 60 pounds (27 kilograms). Only female kangaroos have a pouch.

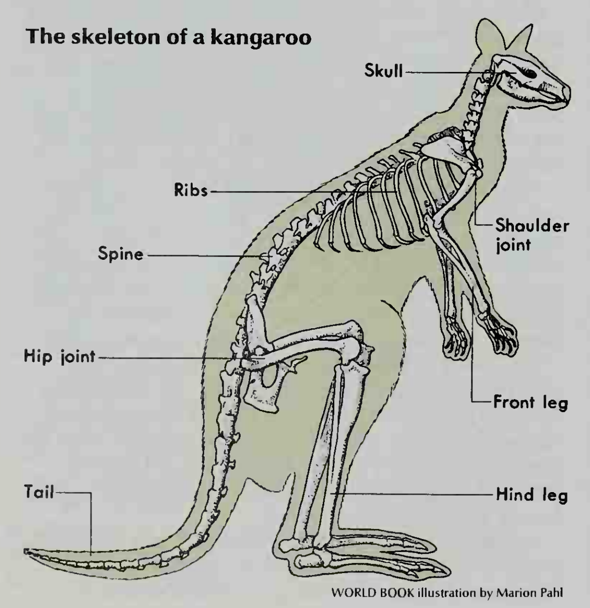
Kangaroos have a small, deerlike head and a pointed snout. They have large, upright ears that they can turn from front to back. Most kangaroos have short brown



Warren Garst, Tom Stack & Associates

A ***joey*** (young kangaroo) spends the first several months of its life inside its mother's pouch. Shortly after a joey leaves the pouch, most female kangaroos give birth to a new joey.

The skeleton of a kangaroo



WORLD BOOK illustration by Marion Pahl

W. R. Taylor, Ardea Photographics

A kangaroo can hop on its powerful hind legs at speeds up to 30 miles (48 kilometers) per hour. The animal uses its long muscular tail for balance when hopping.

or gray fur. Male red kangaroos may have red fur. Female red kangaroos are usually grayish-blue.

Kangaroos have large, powerful hind legs and small front legs. When kangaroos hop, they use only their hind legs, which they move together. Large kangaroos can hop as fast as 30 miles (48 kilometers) per hour for short distances. They can leap over obstacles as high as 6 feet (1.8 meters).

Kangaroos have long tails. A red kangaroo's tail may be more than 3 feet (91 centimeters) long. A kangaroo uses its tail for balance when hopping and also for support when standing upright or when walking on four legs.

The life of a kangaroo. In general, kangaroos rest in the shade during the day and search for food at night. However, they may be active all day when temperatures are low. Kangaroos feed on grass and small plants. They sometimes gather at feeding sites in large groups called *mobs.* Otherwise, kangaroos usually spend their time in small groups that often consist of a mother and her offspring.

Female red kangaroos breed at any time of year. Female gray kangaroos generally breed in the late spring or early summer. About one month after mating, the female usually gives birth to one offspring, called a *joey.* A newborn joey measures only about 1 inch (2.5 centimeters) long. The joey spends six to eight months in the mother's pouch, attached to one of her *teats* (nipples) and nourished by her milk. The female has four teats, and older offspring often attempt to suck milk from them long after leaving the pouch.

Kangaroos generally live from six to eight years, but many younger individuals may die in times of drought. Red kangaroos have a special system of reproduction that helps their populations quickly return to normal size after a drought. After a joey is born, the mother red kangaroo often mates again. The *embryo* (unborn young) formed from this mating does not develop into a joey until after the first joey leaves the pouch or unless the first joey dies in the pouch. After the second joey is born, the mother usually mates again, and the cycle continues.

Other macropods vary widely in size and live in a variety of habitats. One of the largest species of wallabies, the *agile wallaby,* measures more than 5 feet (1.5 meters) long and weighs up to 60 pounds (27 kilograms). It inhabits open forests and grasslands along the northern coast of Australia. The smallest macropod is the *musky rat-kangaroo,* which grows to about the size of a rat. The musky rat-kangaroo lives in rain forests of northeastern Australia. Other rat-kangaroos are found in deserts and grasslands. Hare-wallabies and potoroos inhabit grasslands, bettongs live in dry woodlands, and tree kangaroos are found in rain forests.

Kangaroos and people. Kangaroos have few enemies besides human beings and wild dogs called *dingoes.* Kangaroos are protected throughout Australia by laws that prohibit killing them. In some areas, however, hunters are licensed to kill large kangaroos to protect crops or to provide meat, fur, and leather when the kangaroos are abundant. Some small macropods, including certain rat-kangaroos and wallabies, are in danger of extinction because farmers and ranchers have destroyed much of their habitat. Michael L Augee

Scientific classification. Kangaroos and their relatives belong to the family Macropodidae. The scientific name for the red kangaroo is *Macropus rufus.* The eastern gray kangaroo is *M. giganteus,* and the western gray kangaroo is *M. fuliginosis.*

See also **Marsupial**.

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Kangaroo court is a slang term for an unauthorized gathering of people who take the law into their own hands by acting as a court. Such groups usually disregard the principles of law and justice, and impose unfair or excessive punishments. The term is thought to have arisen in Kansas or Ohio. Pioneer judges traveled from place to place handling trials quickly and were paid with the fines from convicted prisoners. These leaps from place to place gave rise to the term *kangaroo court.* Critics of a lawfully appointed court often use the term when they feel such a court's judgments completely disregard legal rights or procedures. Douglas Greenberg

Kangaroo rat is a rodent that jumps around like a kangaroo on long, powerful hind legs. Kangaroo rats grow only about 15 inches (38 centimeters) long, including a tail of more than 8 inches (20 centimeters). They have short front legs, large heads, and big eyes. Their silky fur is yellow or brown on the upper parts and white on the underparts.

Kangaroo rats live in the deserts of the southwestern United States and Mexico. They nest in *burrows* (tunnels) and come out at night to gather plant food. Kangaroo rats use their small front feet to stuff food into fur-lined pouches on the outside of their cheeks. They carry the food back to their nests. Kangaroo rats, like their relatives the *pocket mice,* do not need to drink water. They use the water that is produced when food inside them combines with the oxygen that they breathe.

Clyde Jones



WORLD BOOK illustration by John D. Dawson

The kangaroo rat can leap about on its powerful hind legs like a kangaroo. Its tail is about as long as its body. At night, kangaroo rats come out from their burrows and search for food. They have large eyes and can see well in the dark.

Scientific classification. Kangaroo rats belong to the pocket mouse family, Heteromyidae. They are in the genus *Dipodomys.*

Kanishka, *kuh NIHSH kuh* (?-A.D. 100?), was the greatest ruler of the Kushan Empire. He expanded the empire's power over what is now Pakistan, Afghanistan, and northwest India. Under Kanishka, Kushan wealth and culture reached their peaks.

Kanishka adopted Buddhism as the empire's official religion and called together a council of Buddhist monks and philosophers. He sent Buddhist missionaries to China. At his capital, near Peshawar, he built a famous towering monument to house relics of Buddha.

Kanishka supported the Gandharan school of sculpture, one of the first schools to produce stone images of Buddha. Earlier, sculptors had created things only associated with Buddha, such as his footprints. Kanishka probably adopted the *Saka Era,* a calendar system still used by the Indian government. Michael H. Fisher

See also **Kushan Empire**.

Kanpur, *KAHN poor* (pop. 2,532,138; met. area pop. 2,690,486), is the largest city in Uttar Pradesh, a state in northern India. Kanpur lies on the west bank of the Ganges River (see **India** [political map]). The city is a manufacturing, trade, and transportation center. Kanpur's factories produce cotton, leather goods, military equipment, silk, and wool. The city has many modern buildings. The city's oldest section, in the west, has narrow, winding streets lined by buildings that are crowded together.

An Indian leader ceded Kanpur, then called *Cawnpore,* to the British East India Company in 1801. Cawnpore grew rapidly from a small village into a thriving commercial city. In 1857, Indians killed the entire British population of the city during the Indian Rebellion (see **Indian Rebellion**). The city's name was officially changed to Kanpur in 1948. P. P. Karan

Kansa Indians, *KAN saw,* or Kaw Indians, were a Plains tribe who lived along the Kansas River in eastern Kansas. Both the river and the state were named after them. The Kansa grew corn and other crops, and hunted buffalo. They lived in earth lodges made of wooden posts and woven mats banked with soil. The tribe sold their Kansas lands to the government in 1873 and moved to a reservation in Oklahoma. Diseases, such as smallpox, took a heavy toll, and few Kansa remain today.



Garry D. McMichael, Hillstrom Stock Photo

The plains of Kansas produce huge harvests of wheat. Kansas wheat fields are so productive that the state has earned the nicknames *Wheat State* and *Breadbasket of America.*

Kansas *The Sunflower State*

Kansas leads all the states of the United States in wheat production. In early summer, the vast wheat fields on the state's prairies look like golden seas of grain. Busy mills throughout Kansas grind wheat into flour, to be shipped to the world's bakers. Kansas has been called the *Wheat State* and the *Breadbasket of America.*

Kansas is also a leader in other important activities. Thousands of oil and gas wells dot the prairies, and Kansas leads the states in the production of civilian airplanes. Manufacturing and trade are the state's most important economic activities.

Kansas was named for the Kansa, or Kaw, Indians who once lived in the region. The word *Kansas* means *people of the south wind.*

The state is known as the *Sunflower State,* after its state flower. The tall, yellow prairie flowers grow abundantly in fields and along roadsides throughout the state. Kansas was once called *Midway, U.S.A.* because of its location. The state lies midway between the Atlantic and Pacific oceans. Before Alaska and Hawaii joined the Union, the geographic center of the United States was near Smith Center, in north-central Kansas. The geodetic center of North America is in Osborne County. This point serves as the reference point, or point of origin, for all U.S. government maps of North America. The governments of Canada and Mexico also use this point in producing their maps. See **Geodetic center of North America.**

Kansas received two nicknames because of its stormy history of the mid-1800's. The conflict over slavery led to such violence that newspapers of the 1850's called the area *Bleeding Kansas.* Kansas also came to be called the *Jayhawker State.* Raiders crossed from Kansas territory into Missouri to attack and sometimes kill slaveholders. They would return to Kansas with stolen goods and freed slaves. This activity came to be called *jayhawking,* and the raiders were known as *jayhawkers.*

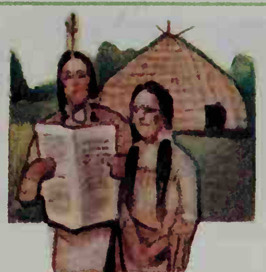
The contributors of this article are Ellen R. Hansen, Assistant Professor of Geography at Emporia State University, and Rita G. Napier, Associate Professor of History at the University of Kansas.

Interesting facts about Kansas

WORLD BOOK illustrations by Kevin Chadwick

Prohibition first became part of a state constitution in 1880, when Kansas passed an amendment prohibiting the manufacture, distribution, and sale of liquor.

A newspaper called the *Siwinowe Kesibwi* (*Shawnee Sun*), was established in Kansas in 1835. The monthly publication was the first newspaper published in Kansas and the first in North America to be printed entirely in an Indian language. The newspaper was published in the Algonquian language for members of the Shawnee tribe by the missionary Jotham Meeker.



Indian-language paper

The first female mayor in the United States, Susanna Salter, was elected mayor of the town of Argonia in 1887. The election also marked the first time women in Kansas were allowed to vote in city elections.

Helium was first found in natural gas in 1905 by University of Kansas scientists Hamilton Perkins Cady and David Ford McFarland. Because helium can be removed from natural gas easily, the discovery led to the development of the commercial helium industry.



Helium source discovered



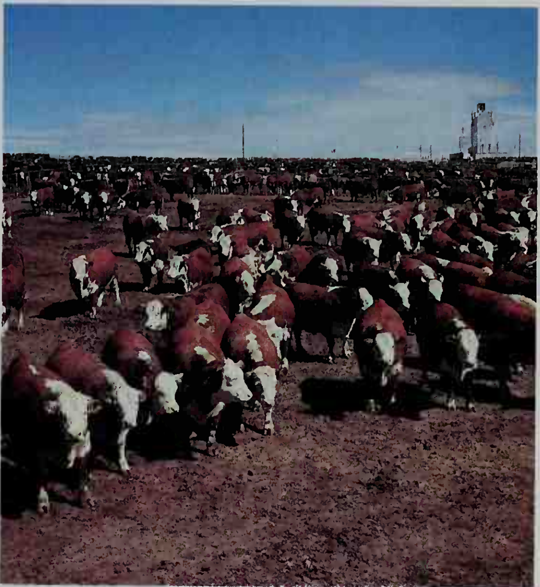
Henry Nelson, Wichita Art Museum

The Wichita Art Museum has an excellent collection of American art. The collection includes works by such noted artists as Charles Marion Russell and Frederic Remington.

The state's history of the 1860's through the 1880's has become well known through books, motion pictures, and TV programs about the cattle trails, cattle towns, and lawmen of that time. The nickname of Dodge City, Kansas—Cowboy Capital of the World—suggests Kansas's background as cattle country. When Dodge City got its nickname, it was a major regional shipping point for cattle. Cowboys herded Texas longhorns great distances over cattle trails to reach the railroads in Dodge City, Abilene, and other cattle centers. Such famous lawmen as Wyatt Earp, Wild Bill Hickok, and Bat Masterson tried to keep the peace among the cowboys and outlaws who gave these cattle towns their reputations as brawling, lawless places.

Dodge City is still a cattle center, but some of its cowboys no longer ride horses. Mounted on motorcycles or on *all-terrain vehicles (ATVs),* the cowboys herd cattle in Dodge City's feed lots. Today, Kansas ranks among the leading states in production of beef cattle.

Wichita is the largest city in Kansas. Topeka is the state's capital.



Grant Heilman

Beef cattle are readied for market in a Kansas feed lot. Cattle markets played a key role in the development of Kansas, and beef production remains a leading agricultural activity.

Kansas in brief

Symbols of Kansas

The state flag was adopted in 1927 and modified in 1963. Above the state seal is the state crest—a twisted blue and gold bar with a sunflower, the state flower. The bar's colors represent the Louisiana Purchase. On the state seal, adopted in 1861, the rising sun represents the East, from where most Kansas settlers came. The 34 stars stand for Kansas as the 34th state. The farmer plowing and the settler's cabin symbolize the future prosperity of the state through agriculture.

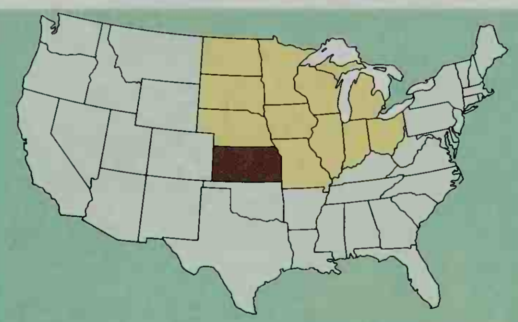




State flag



State seal



Kansas (brown) ranks 14th in size among all the states, and 2nd in size among the Midwestern States (yellow).



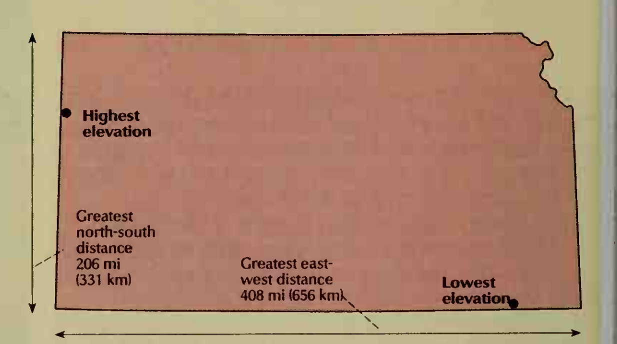
Topeka has housed the State Capitol since 1861. Earlier capitals were Fort Leavenworth (1854), Shawnee Mission (1854-1855), Pawnee (1855), and Lecompton (1855-1861).

General information

Statehood: Jan. 29, 1861, the 34th state.
State abbreviations: Kans. or Kan. (traditional); KS (postal).
State motto: Ad Astra per Aspera (To the Stars Through Difficulties).
State song: "Home on the Range." Words by Brewster Higley; music by Daniel Kelley.

Land and climate

Area: 82,282 mi² (213,110 km²), including 459 mi² (1,189 km²) of inland water.
Elevation: *Highest*—Mount Sunflower, 4,039 ft (1,231 m) above sea level. Lowest—680 ft (207 m) above sea level along the Verdigris River in Montgomery County.
Record high temperature: 121 °F (49 °C), at Fredonia on July 18, 1936, and near Alton on July 24, 1936.
Record low temperature: -40 °F (-40 °C), at Lebanon on Feb. 13, 1905.
Average July temperature: 78 °F (26 °C).
Average January temperature: 30 °F (-1 °C).
Average yearly precipitation: 27 in (69 cm).



Important dates

1803 — Kansas became United States territory as part of the Louisiana Purchase.

1850's — Fighting over the slavery issue gave the region the name *Bleeding Kansas.*

1861 — Kansas became the 34th state on January 29.

1894 — Kansas oil and gas fields began producing.



State bird
Western meadowlark



State flower
Sunflower



State tree
Cottonwood

People

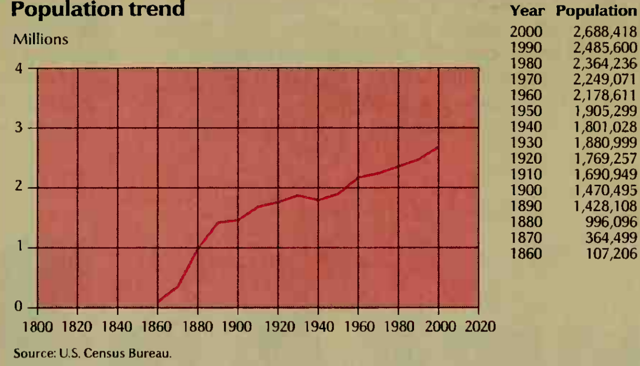
Population: 2,688,418 (2000 census)
Rank among the states: 32nd
Density: 33 per mi² (13 per km²), U.S. average 78 per mi² (30 per km²)
Distribution*: 69 percent urban, 31 percent rural

Largest cities in Kansas

Wichita	344,284
Overland Park	149,080
Kansas City	146,866
Topeka	122,377
Olathe	92,962
Lawrence	80,098

Source: 2000 census, except for *, where figures are for 1990.

Population trend



Year	Population
2000	2,688,418
1990	2,485,600
1980	2,364,236
1970	2,249,071
1960	2,178,611
1950	1,905,299
1940	1,801,028
1930	1,880,999
1920	1,769,257
1910	1,690,949
1900	1,470,495
1890	1,428,108
1880	996,096
1870	364,499
1860	107,206

Source: U.S. Census Bureau.

Economy

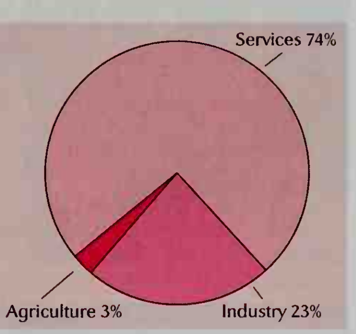
Chief products

Agriculture: beef cattle, wheat, corn, grain sorghum, hay, hogs, soybeans.
Manufacturing: transportation equipment, food products, machinery, rubber and plastics products, printed materials.
Mining: petroleum, natural gas.

Gross state product

Value of goods and services produced in 1998: $76,992,000,000. *Services* include community, business, and personal services; finance; government; trade; and transportation, communication, and utilities. *Industry* includes construction, manufacturing, and mining. *Agriculture* includes agriculture, fishing, and forestry.

Source: U.S. Bureau of Economic Analysis.



Government

State government

Governor: 4-year term
State senators: 40; 4-year terms
State representatives: 125; 2-year terms
Counties: 105

Federal government

United States senators: 2
United States representatives: 4
Electoral votes: 6

Sources of information

For information about tourism, write to: Kansas Department of Commerce and Housing, Travel and Tourism Development Division, 700 SW Harrison, Suite 1300, Topeka, Kansas 66603-3712. The Web site at www.travelks.com also provides information. The Department of Commerce and Housing also handles requests for information about the state's economy.

The state's official Web site at www.state.ks.us also provides a gateway to much information on Kansas's economy, government, and history.

1905 — The country's first helium was found in natural gas near Dexter.

1934-1935 — Dust storms damaged large areas of Kansas farmland.

1975 — An amendment increasing the terms for governor and other top state officials from two to four years became effective.

1991-1995 — Joan Finney served as first female governor of Kansas.

People

Population. The 2000 United States census reported that Kansas had 2,688,418 people. The population had increased 8 $\frac{1}{2}$ percent over the 1990 figure, 2,477,574. According to the 2000 census, Kansas ranks 32nd in population among the 50 states.

About 57 percent of the people of Kansas live in metropolitan areas (see **Metropolitan area**). The metropolitan areas of Lawrence, Topeka, and Wichita are located entirely in Kansas. The Kansas City, Missouri, metropolitan area extends into eastern Kansas. For the populations of these metropolitan areas, see the *Index* to the political map of Kansas in this article.

Wichita is the state's largest city. The state's other large cities, in order of population, include Overland Park, Kansas City, Topeka, Olathe, and Lawrence. Garden City ranks as the largest city in the western part of Kansas. It has a population of less than 30,000 people.

Nearly 25,000 American Indians live in Kansas. About 5 percent of them live on reservations in the state—the Iowa, Sac and Fox, Kickapoo, and Potawatomi Indian reservations.

Schools. The first schools in Kansas were established for Indians by missionaries during the 1830's. A few white children attended these schools. In 1855, the territorial legislature passed laws providing for free education for white children. In 1859, the territorial legislature extended the laws for free education to all children in Kansas.

A State Board of Education heads the school system. It appoints a commissioner to administer elementary and secondary education. Local boards and superintendents direct schools at the district level. Since 1963, many small districts have been combined to make better use of school buildings and funds. Children from ages 7 through 15 must attend school. For the number of students and teachers in Kansas, see **Education** (table).

In 1884, Haskell Institute (now Haskell Indian Nations University) was founded in Lawrence to educate Indians.

Kansas Dept. of Commerce and Housing



Indians participate in a ceremony at an Indian center in Wichita, *shown here.* About 25,000 Indians live in Kansas.

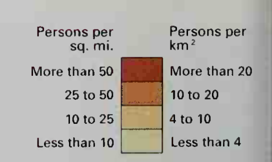


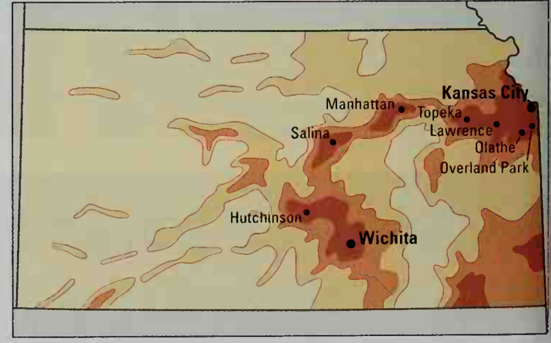
Kansas Dept. of Commerce and Hnusing

Mennonite women attend a rummage sale in Hutchinson. Mennonites, who believe in simple living and modest dress, settled in Kansas during the 1870's.

Population density

More than half of the people of Kansas live in metropolitan areas. The eastern half of Kansas has the state's largest cities. The western half is heavily rural and relatively thinly populated.





WORLD BOOK map; based on U.S. Census Bureau data.



University of Kansas

The main campus of the University of Kansas is in Lawrence. It was founded in 1864. The university also has campuses in Kansas City, Kansas; and Wichita.

Universities and colleges

This table lists the universities and colleges in Kansas that grant bachelor's or advanced degrees and are accredited by the North Central Association of Schools and Colleges.

Name	Mailing address
Baker University	Baldwin City
Benedictine College	Atchison
Bethany College	Lindsborg
Bethel College	North Newton
Central Baptist Theological Seminary	Kansas City
Central Christian College of Kansas	McPherson
Emporia State University	Emporia
Fort Hays State University	Hays
Friends University	Wichita
Haskell Indian Nations University	Lawrence
Kansas, University of	*
Kansas State University	†
Kansas Wesleyan University	Salina
Manhattan Christian College	Manhattan
McPherson College	McPherson
MidAmerica Nazarene University	Olathe
Newman University	Wichita
Ottawa University	Ottawa
Pittsburg State University	Pittsburg
St. Mary College	Leavenworth
Southwestern College	Winfield
Sterling College	Sterling
Tabor College	Hillsboro
U.S. Army Command and General Staff College	Fort Leavenworth
Washburn University of Topeka	Topeka
Wichita State University	Wichita

*For campuses, see Kansas, University of.
†Campuses at Manhattan and Salina.

Today, young Indians prepare there for careers in business and industry.

Libraries. The first Kansas library opened in 1859 in Vinland. Today, the State Library of Kansas in Topeka provides materials for and about the state government. It also runs statewide library programs. The state's largest library is the Watson Memorial Library of the University of Kansas in Lawrence. Other major libraries include the Dwight D. Eisenhower Library in Abilene and the Hale Library of Kansas State University in Manhattan.

Museums. The campus of the University of Kansas in Lawrence has several museums, including the Spencer Art Museum, the Museum of Anthropology, and the Natural History Museum.

The Kansas Museum of History in Topeka, operated by the Kansas State Historical Society, is the largest historical museum in the state. Other Kansas museums include the Birger Sandzen Memorial Gallery in Lindsborg, the Kansas Cosmosphere and Space Center in Hutchinson, the Eisenhower Museum in Abilene, the Kansas Learning Center for Health in Halstead, the Mulvane Art Museum at Washburn University in Topeka, the Martin and Osa Johnson Safari Museum in Chanute, the Wichita Art Museum, and the Sternberg Natural History Museum in Hays.

Dwight D. Eisenhower Library



The Eisenhower Library in Abilene contains documents and other items associated with Dwight D. Eisenhower, president of the United States from 1953 to 1961. A statue of Eisenhower stands in front of the building. The library is part of a complex that includes a museum and Eisenhower's burial place.


Kansas political map
Urban area
Forest or other conservation area
Military or other federal area
Indian reservation
State boundary
County boundary
FORD County name
State capital
County seat
City or town
Park or other federal area
Point of interest
Major airport
Railroad
Highways:
Expressway
Other road
Interstate
U.S.
Other
Lambert conformal conic projection
WORLD BOOK map
NEBRASKA
COLORADO
OKLAHOMA
Grand Island
Red Cloud
Republican
Harlan County Lake
GEOGRAPHIC CENTER OF THE 48 CONTERMINOUS STATES
CHEYENNE
St. Francis
Wheeler
Bird City
Beardsley
Atwood
McDonald
RAWLINS
Ludell
Herndon
Cedar Bluffs
Traer
Oberlin
DECATUR
Norcatur
Norton
Reager
Oronoque
Almena
Calvert
Long Island
Woodruff
Prairie Dog Creek
Keith Sebelius Lake
NORTON
Clayton
Dellvale
PHILLIPS
Phillipsburg
Prairie View
Stuttgart
Kensington
Agra
Athol
SMITH
Bellaire
Smith Center
Gaylord
Harlan
Portis
Downs
Osborne
OSBORNE
Kirwin
Kirwin Reservoir
KIRWIN NATIONAL WILDLIFE REFUGE
Glade
Speed
Logan
Densmore
Lenora
Edmond
New Almelo
Jennings
Dresden
Leoville
Allison
Selden
Bonny Reservoir
South Fork
Little Beaver Creek
North Fork Beaver Creek
Kanorado
SHERMAN
Goodland
Edson
Ruleton
Levant
Colby
Brewster
THOMAS
Halford
Menlo
Gem
Rexford
North Fork Solomon River
SHERIDAN
Hoxie
Studley
Tasco
Lucerne
NICODEMUS NATIONAL HISTORIC SITE
Nicodemus
Hill City
Penokee
Morland
Bogue
GRAHAM
Damar
ROOKS
Stockton
Woodston
Alton
Bloomington
Webster Reservoir
Palco
Zurich
Plainville
Codell
Natoma
Covert
GEODETIC CENTER MEADES RANCH
Waldo
Luray
Lucas
Sylvan Grove
Paradise
Fairport
RUSSELL
Russell
Wilson Lake
Bunker Hill
Dorrance
Gorham
Seguin
Mingo
South Fork Solomon River
Angelus
Saline River
St. Peter
Campus
Monument
Page City
Winona
Oakley
Grinnell
Grainfield
Park
Quinter
Collyer
WaKeeney
Ogallah
ELLIS
Ellis
Yocemento
Hays
Walker
Victoria
Catharine
Emmeram
McAllaster
WALLACE
Sharon Springs
Weskan
Wallace
LOGAN
Russell Springs
Hackberry Creek
Gove
GOVE
Big Creek
TREGO
Trego Center
Cedar Bluff Reservoir
Smoky Hill River
Antonino
Schoenchen
Pfeifer
Smoky Hill River
Milberger
Ladder Creek
GREELEY
Horace
Tribune
WICHITA
Leoti
Marienthal
Selkirk
Whitelaw
SCOTT
Scott City
Modoc
Grigston
Healy
Pendennis
Shields
Utica
LANE
Dighton
Arnold
Ransom
Brownell
NESS
Ness City
Beeler
Alamota
Amy
Liebenthal
Loretta
Galatia
McCracken
La Crosse
RUSH
Otis
Bison
Susank
Beaver
Redwing
Olmitz
Hoisington
Albert
Heizer
BARTON
Great Bend
Ellinwood
Timken
Alexander
Bazine
Walnut Creek
Nekoma
Rush Center
White Woman Creek
Shallow Water
Pawnee River
Pawnee Rock
QUIVIRA NATIONAL WILDLIFE REFUGE
PAWNEE
Burdett
Rozel
Larned
FORT LARNED NATIONAL HISTORIC SITE
Garfield
Zook
Radium
Seward
Hudson
STAFFORD
St. John
Stafford
Coolidge
HAMILTON
Syracuse
Kendall
KEARNY
Lakin
Hartland
Deerfield
Holcomb
Garden City
FINNEY
Kalvesta
Jetmore
Hanston
HODGEMAN
Buckner Creek
Arkansas River
Kinsley
Belpre
Macksville
Lewis
EDWARDS
Offerle
Trousdale
Fellsburg
Rattlesnake Creek
Hopewell
Byers
Iuka
Preston
Pierceville
Charleston
Ingalls
Cimarron
GRAY
Ensign
Bellefont
Spearville
Windhorst
FRONT STREET
Dodge City
FORD
Centerview
STANTON
Bear Creek
Johnson City
Manter
Big Bow
Saunders
Ulysses
GRANT
Hickok
Ryus
HASKELL
Sublette
Satanta
Montezuma
Copeland
Ford
Bucklin
Kingsdown
Bloom
Greensburg
Mullinville
KIOWA
Haviland
Brenham
Wellsford
Cullison
Pratt
PRATT
Cairo
Cunningham
Croft
Coats
Sawyer
Isabel
Belvidere
Minneola
Fowler
Meade
MEADE
Plains
Kismet
Moscow
Richfield
MORTON
North Fork Cimarron River
CIMARRON NATIONAL GRASSLANDS
Wilburton
Elkhart
Rolla
Hugoton
STEVENS
Feterita
Woods
SEWARD
Liberal
Hayne
Crooked Creek
Cimarron
CLARK
Ashland
Sitka
Acres
Englewood
Bluff Creek
Coldwater
Protection
COMANCHE
Buttermilk
Salt Fork Arkansas River
Wilmore
Sun City
Lake City
Medicine Lodge
Deerhead
BARBER
Aetna
Hardtner
100° 30'
99°
102°
0 10 20 40 60 80 100 120 140 160 180
0 10 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300



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NEBRASKA
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MISSOURI
OKLAHOMA
North
York
Lincoln
Shenandoah
Clarinda
Bedford
Nebraska City
Hamburg
Missouri
Auburn
Tarkio
Maryville
Platte
River
Beatrice
Hebron
Fairbury
Wymore
Little
Blue
Superior
Falls City
SAC AND FOX INDIAN RES.
IOWA INDIAN RES.
White Cloud
Iowa Point
40° North Latitude
Savannah
St. Joseph
Plattsburg
Harbine
Narka
Mahaska
Hollenberg
Oketo
Summerfield
Bern
Reserve
Morrill
Padonia
Republic
HOLLENBERG PONY EXPRESS STATION
Bremen
Herkimer
St. Benedict
Berwick
Sabetha
Hamlin
Hiawatha
Highland
Sparks
Lovewell Res.
Munden
Morrowville
Hanover
Beattie
Axtell
Oneida
BROWN
Belleville
REPUBLIC
Emmons
Marysville
Seneca
Fairview
Robinson
Troy
Lovewell
Haddam
Home
Bailey ville
NEMAHA
Powhattan
Baker
Leona
Blair
Wathena
Scandia
Cuba
WASHINGTON
Washington
MARSHALL
Centralia
Kelly
Willis
Denton
Bendena
Elwood
Courtland
Agenda
Greenleaf
Barnes
Winifred
Frankfort
Vliets
Vermillion
Goff
KICKAPOO INDIAN RES.
Horton
Mercier
Everest
DONIPHAN
Formoso
Kackley
Norway
Wayne
Brantford
Waterville
Blue Rapids
Corning
Wetmore
Netawaka
Purcell
Doniphan
Jewell
Randall
Linn
Palmer
Lillis
Bancroft
Huron
Atchison
Hollis
Clyde
Kimeo
Parallel
Whiting
Lancaster
Jamestown
Concordia
Clifton
Soldier
Muscotah
Effingham
Scottsville
Huscher
Vining
May Day
Blaine
Wheaton
Circleville
Monrovia
CLOUD
St. Joseph
Morganville
Green
Fostoria
Onaga
Havensville
Holton
Arrington
ATCHISON
Cummings
Aurora
Randolph
Olsburg
Westmoreland
JACKSON
Nortonville
Potter
Simpson
Clay Center
Leonardville
Turtle Creek Lake
Emmett
POTAWATOMI INDIAN RESERVATION
Denison
FORT LEAVENWORTH
Glasco
Miltonvale
Idana
RILEY
Riley
POTTAWATOMIE
Mayetta
Valley Falls
Easton
Broughton
CLAY
FORT RILEY MILITARY RESERVATION
Louisville
Wamego
Delia
Hoyt
Winchester
Leavenworth
Delphos
Oak Hill
Wakefield
Milford
Keats
Belvue
Ozawkie
JEFFERSON
Rock Creek
Oskaloosa
Lansing
Barnard
OTTAWA
Longford
Manhattan
St. Marys
Grove
Meriden
McLouth
Jarbalo
Kansas City
Ada
Wells
Industry
Milford Lake
Ogden
Wabaunsee
Maple Hill
Rossville
Elmont
Perry Lake
Tonganoxie
Bonner Springs
Edwardsville
Milo
Minneapolis
Vine Creek
Upland
Paxico
Silver Lake
Williamstown
Shawnee
Merriam
Overland Park
Fairway
Mission Hills
Lincoln
Beverly
Bennington
Manchester
FORT RILEY
McFarland
Topeka
Lawrence
Reno
Linwood
De Soto
Prairie Village
Leawood
Tescott
Verdi
Talmage
Chapman
Junction City
Alma
Keene
SHAWNEE
Big Springs
Lecompton
Eudora
Lenexa
Olathe
Culver
Niles
GEARY
WABAUNSEE
Stull
Saline River
Abilene
Detroit
Volland
Auburn
Pauline
Berryton
Clinton
Glendale
Solomon
EISENHOWER LIBRARY AND MUSEUM
Clinton Lake
Vinland
JOHNSON
Stanley
Belton
Hedville
New Cambria
Enterprise
Alta Vista
Eskridge
Wakarusa
Richland
Lone Star
Salina
DICKINSON
Skiddy
Dwight
Harveyville
Carbondale
Pleasant Grove
DOUGLAS
Gardner
Aubry
Bavaria
SALINE
Kipp
Woodbine
Overbrook
Baldwin City
Spring Hill
Brookville
Navarre
White City
Parkerville
Wilmington
Scranton
Edgerton
Carneiro
Mentor
Latimer
MORRIS
Council Grove Lake
Burlingame
Centropolis
Wellsville
Bucyrus
Smolan
Gypsum
Council Grove
Allen
Osage City
OSAGE
Le Loup
Wagstaff
Kanopolis
Falun
Assaria
Carlton
Elmo
Hope
Herington
Bushong
Admire
Vassar
Michigan Valley
Hillsdale
Hillsdale Lake
Louisburg
Bridgeport
Ramona
Wilsey
Miller
Lyndon
Pomona Lake
Pomona
Ottawa
Rantoul
Somerset
Paola
Lindsborg
Lost Springs
Burdick
TALL GRASS PRAIRIE NATIONAL PRESERVE
Dunlap
Americus
Quenemo
Homewood
FRANKLIN
Princeton
MIAMI
Kanopolis Lake
Marquette
Roxbury
Tampa
Durham
Lincolnville
Reading
Melvern
Osawatomie
38 30'
Crawford
Plymouth
LYON
Olivet
Melvern Lake
Williamsburg
Lane
New Lancaster
Geneseo
Pilsen
Hymer
Saffordville
Emporia
Lebo
Agricola
Fontana
MCPHERSON
Strong City
Neosho River
Waverly
Richmond
Beagle
Windom
Galva
Canton
Elmdale
Neosho Rapids
Halls Summit
Greeley
Cadmus
La Cygne
Mitchell
Conway
Lehigh
Marion Lake
Marion
Cottonwood River
Cottonwood Falls
Hartford
Harris
Parker
Boicourt
McPherson
Hillsboro
CHASE
Ottumwa
New Strawn
Garnett
LINN
Trading Post
Saxman
Inman
Elyria
MARION
Clements
Bazaar
Olpe
Sharpe
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ANDERSON
Centerville
Goessel
Florence
Cedar Point
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Westphalia
Bush City
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Marais des Cygnes River
Moundridge
Matfield Green
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COFFEY
Aliceville
Welda
Selma
Mound City
Nickerson
Medora
Buhler
Hesston
Walton
Peabody
Lamont
Gridley
Lone Elm
Blue Mound
KANSAS COSMOSPHERE AND SPACE CENTER
Hutchinson
HARVEY
Burns
Madison
Le Roy
Colony
Kincaid
Prescott
Burrton
North Newton
Newton
Cassoday
Verdigris River
Neosho Falls
Mildred
Mapleton
Fulton
Elbing
Teterville
Thrall
Virgil
Vernon
Carlyle
Xenia
Harding
Partridge
Halstead
Annelly
Hamilton
Iola
Gas
Moran
Devon
Hammond
Yoder
Patterson
Whitewater
Potwin
GREENWOOD
Piqua
Bassett
La Harpe
Bronson
BOURBON
RENO
Sedgwick
El Dorado Lake
Yates Center
ALLEN
Haven
Bentley
Valley Center
Eureka
Quincy
WOODSON
Humboldt
Uniontown
Redfield
Fort Scott
Mount Hope
Arkansas River
Park City
Towanda
El Dorado
Neal
Toronto
Rose
Elsmore
FORT SCOTT NATIONAL HISTORIC SITE
Prairie
Andale
Colwich
Maize
Kechi
Benton
Rosalia
Reece
Toronto Lake
Petrolia
Savonburg
Hiattville
Cheney Reservoir
Wichita
BUTLER
Climax
Buffalo
Chanute
Stark
Garland
Waterloo
Andover
Augusta
Leon
Fall River Lake
Coyville
Roper
Kimball
Hepler
Arcadia
Cheney
Goddard
Eastborough
Beaumont
Severy
Benedict
Erie
Farlington
Englevale
McCONNELL AIR FORCE BASE
Piedmont
Fall River
Earlton
Shaw
Walnut
Mulberry
Garden Plain
Schulte
Gordon
New Albany
Urbana
NEOSHO
Cleveland
Murdock
SEDGWICK
Haysville
Rose Hill
Latham
Fredonia
WILSON
Altoona
Thayer
St. Paul
CRAWFORD
Arma
Belmont
Clearwater
Derby
Howard
ELK
Buxton
Galesburg
Girard
Ringo
Adams
Norwich
Viola
Peck
Mulvane
Douglass
Atlanta
Longton
Buffville
Capaldo
Frontenac
Rock
Elk Falls
Lafontaine
Neodesha
Morehead
South Mound
Pittsburg
Rago
Milton
Conway Springs
Belle Plaine
Wilmot
Moline
Oak Valley
Parsons
McCune
Cherokee
Riverdale
Udall
Walnut River
New Salem
Grenola
Elk River
Sycamore
Dennis
West Mineral
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Anson
Akron
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Jefferson
Angola
Bartlett
Baxter Springs
Bluff City
South Haven
Maple City
Cedar Vale
Peru
Tyro
Dearing
Edna
Treece
Caldwell
Hunnewell
Silverdale
Chautauqua
Niotaze
Caney
Coffeyville
Valeda
Chetopa
Picher
Elgin
Miami
Kaw Lake
Hulah Lake
37
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260
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325
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375
Miles 400
350
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425
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575
600
Kilometers 650

Kansas map index

Metropolitan areas

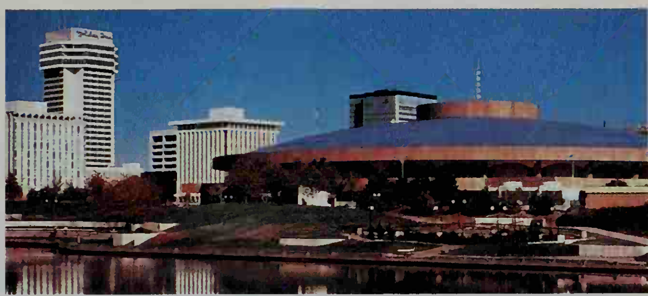
Kansas City 1,776,062
(706,010 in Kans.,
1,070,052 in Mo.)
Lawrence 99,962
Topeka 169,871
Wichita 545,220

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Wichita Convention and Visitors Bureau

Wichita's Century II, *right,* serves as a cultural and civic center. The complex includes exhibit and convention halls, a theater, and a concert hall.

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Lebo	961	G 14
Lecompton	608	F 14
Lehigh	215	G 11
Le Loup		F 15
Lenexa	40,238	F 16
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Leon	645	I 12
Leona	88	D 15
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Norwich	551	J 9
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*Does not appear on map; key shows general location.
†Census designated place—unincorporated, but recognized as a significant settled community by the U.S. Census Bureau.
°County seat.
Places without population figures are unincorporated areas.
Source: 2000 census.

Visitor's guide

Kansas offers visitors a variety of tourist attractions. Towns that were once wild cow towns feature museums depicting the exciting days of cattle drives. Visitors can see wheel ruts left by wagons on the Santa Fe Trail and other westward trails. Preserved forts that once provided travelers protection now offer living history events during the year. Museums and harvest festivals throughout Kansas, a leader in wheat production, celebrate the state's farming heritage. Visitors to Kansas's aviation museums can see displays of the many commercial and military aircraft built in the state.

Kansas also attracts nature enthusiasts. Visitors can enjoy spectacular bird watching. The Flint Hills region is one of the largest remaining areas of tallgrass prairie.



Kansas State Fair in Hutchinson

Places to visit

Following are brief descriptions of some of Kansas's many interesting places to visit:

Boot Hill Museum, in Dodge City, is on the original site of the Boot Hill cemetery. The site consists of historic and reconstructed buildings, including the one-block reconstruction of Front Street, the original business district of Old Dodge City.

Eisenhower Library and Museum, in Abilene, house the mementos and papers of President Dwight D. Eisenhower. His boyhood home and the Place of Meditation, where Eisenhower and his wife Mamie are buried, are also there.

Exploration Place, in Wichita, features interactive exhibits and activities related to flight, health and human life, people, places, and the environment of Kansas.

Fort Larned National Historic Site, near Larned, includes a fort built in the 1860's to protect travelers on the Santa Fe Trail. Many of the buildings have been restored.

Fort Leavenworth, near Leavenworth, was the first permanent white settlement in Kansas. It was founded in 1827. The fort now houses the U.S. Army Command and General Staff College, and Leavenworth Prison, a federal penitentiary. See **Fort Leavenworth; Leavenworth Prison.**

Fort Riley, near Junction City, became famous as a cavalry center. Many buildings, including a cavalry museum, an early Kansas Capitol, and the home of General George A. Custer, still stand on the grounds of the fort.

Fort Scott National Historic Site, in Fort Scott, is a restored cavalry post of the 1840's. Eleven historic buildings, including a hospital, barracks, and officers' quarters, stand there.

Kansas Cosmosphere and Space Center, in Hutchinson, is a wide-ranging museum that features a large space exploration exhibit. Exhibits contain original spacecraft, space suits, a lunar roving vehicle, and the Apollo 13 command module.

State parks and lakes. Kansas's system of state recreation areas includes 23 state parks, about 40 state lakes, and many small roadside parks. For information about the parks and lakes, write to Director, Kansas Department of Wildlife and Parks, 900 Southwest Jackson, Suite 502, Topeka, KS 66603.



Kansas Dept. of Commerce and Housing

Flint Hills Rodeo in Strong City



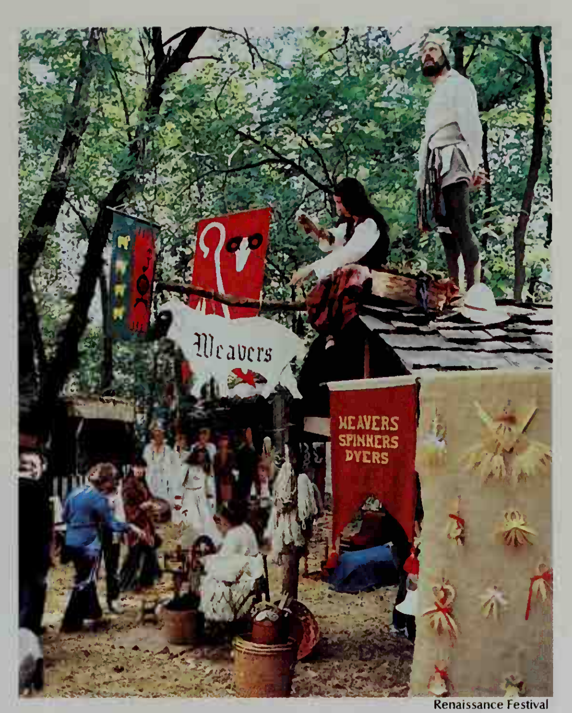
Kansas Dept. of Commerce and Housing

Kansas Cosmosphere and Space Center in Hutchinson



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Restoration of Front Street in Dodge City



Renaissance Festival

Renaissance Festival in Bonner Springs-Kansas City

Annual events

January-April

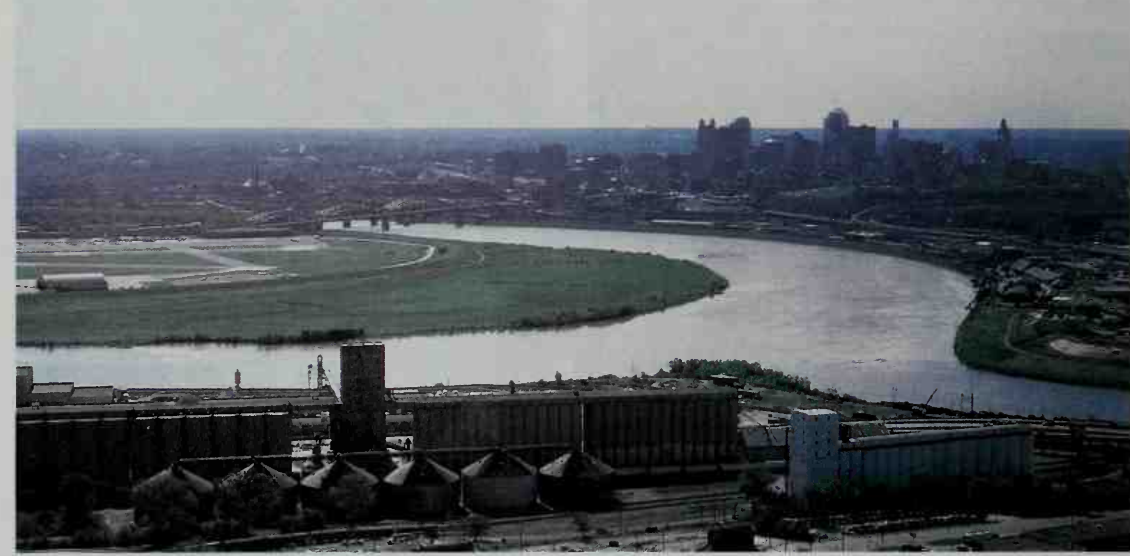
International Pancake Day in Liberal (Shrove Tuesday); Kansas Beef Expo in Hutchinson (March); National Junior College Men's Basketball Tournament in Hutchinson (March); National Junior College Women's Basketball Tournament in Salina (March); Civil War Encampment at Fort Scott (April); Mennonite Relief Sale in Hutchinson (April); Messiah Festival at Bethany College in Lindsborg (April); William Inge Festival in Independence (April).

May-August

Chisholm Trail Festival and Rodeo in Caldwell (May); Civil War Weekend at the Mahaffie Stagecoach Stop in Olathe (May); Cowboy Heritage Festival in Dodge City (May); Dalton Days Festival in Meade (May); Santa Fe Trail Days in Larned (May); Beef Empire Days in Garden City (June); Good Ol' Days at Fort Scott (June); Flint Hills Rodeo in Strong City (early June); Midsummer's Day Festival in Lindsborg (June); Prairie Band Potawatomi Annual Pow Wow in Mayetta (June); Smokey Hill River Festival in Salina (June); Amelia Earhart Festival in Atchison (July); Pretty Prairie Rodeo: Kansas's Largest Night Rodeo in Hutchinson (July); Wild West Festival in Hays (July); Ellsworth Cowtown Festival in Ellsworth (August); Flint Hills Beef Fest in Emporia (August); Pony Express Festival in Hanover (August); State Fiddling & Picking Championships in Lawrence (August); Sunflower Festival in Goodland (August).

September-December

Historic Fort Hays Days in Hays (September); Kansas Championship Ranch Rodeo in Medicine Lodge (September); Kansas State Fair in Hutchinson (September); National Flat Picking Championship/Walnut Valley Festival in Winfield (September); Railroad Days in Topeka (September); Renaissance Festival in Bonner Springs-Kansas City (September-October); Dalton Defender Days in Coffeyville (October); Wild Wild West in Olathe (October); Trail of Lights in Great Bend (November); Frontier Candlelight Tour at Fort Scott (December); Lucia Fest in Lindsborg (December).

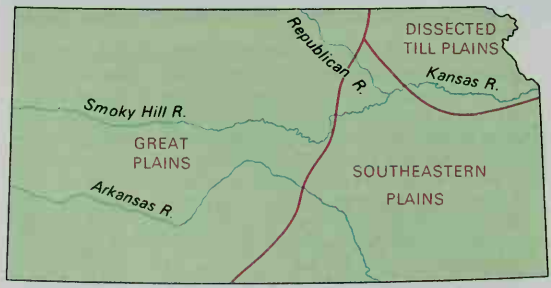


WORLD BOOK photo by David Rees, IPG

The Kansas River, *far right,* joins the Missouri River at the Kansas-Missouri border. A small part of Kansas City, Kansas, is in the foreground. Kansas City, Missouri, lies in the background.

Land regions. Most of Kansas is a rolling plain that increases in elevation from east to west. The state has three main land regions: (1) the Dissected Till Plains, (2) the Southeastern Plains, and (3) the Great Plains.

The Dissected Till Plains cover the northeastern corner, lying generally east of the Big Blue River and north of the Kansas River. The area's rich soil was left as the glacier that once covered the region retreated. Rivers cut into the soil, creating high bluffs, and winds deposited the soil in thin layers across the state.



WORLD BOOK map

Land regions of Kansas

The Southeastern Plains cover the area south of the Dissected Till Plains. They extend as far west as Barber County in the south and Washington County in the north. They are divided into the Osage Cuestas in the east and the Flint Hills in the west. *Cuestas* is the Spanish word for upraised ridges.

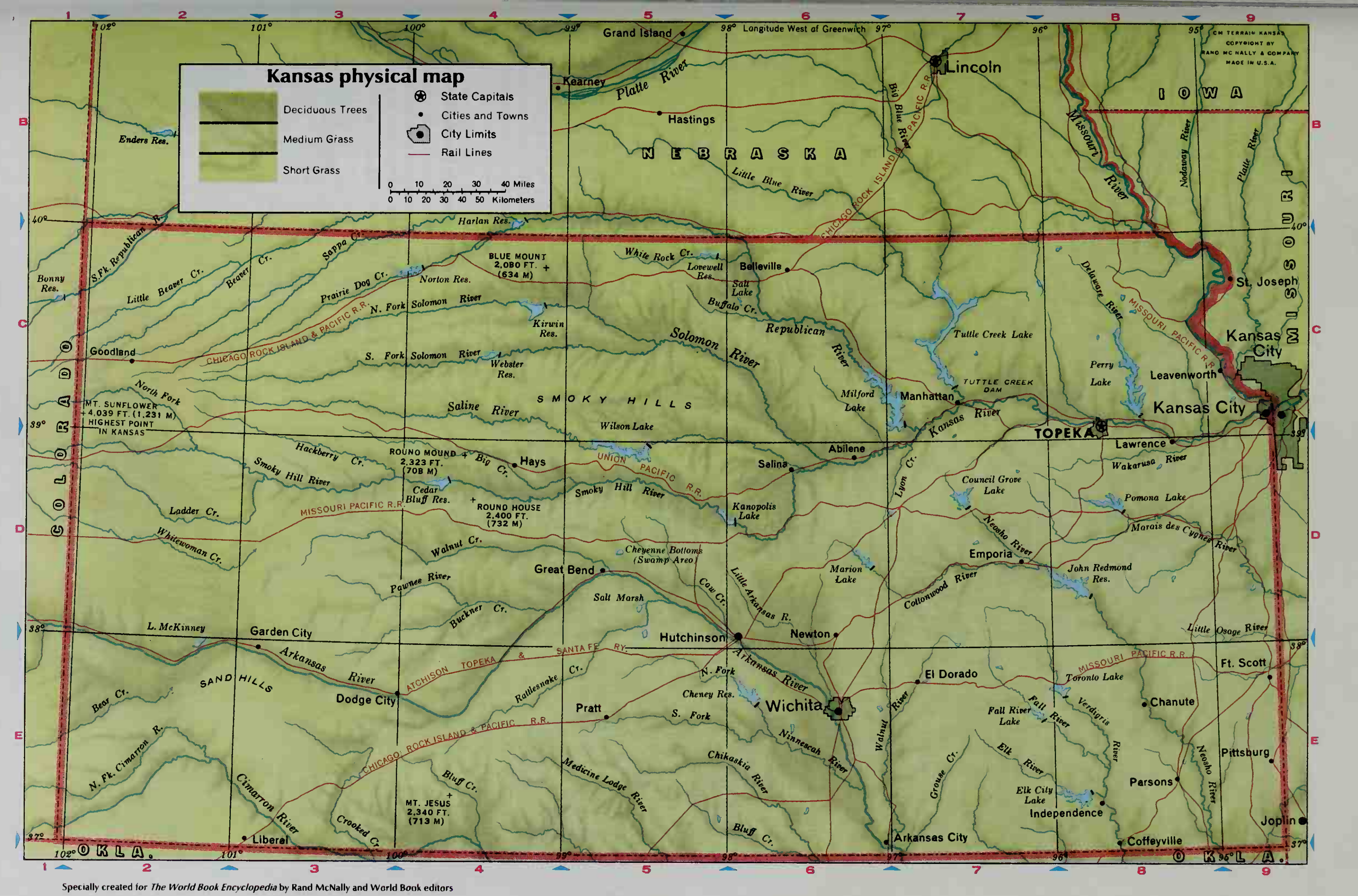
The Osage Cuestas were formed by the erosion of limestone and shale. The area's natural resources include limestone, natural gas, and petroleum. The Flint Hills are the last refuge of the tallgrass prairie. The flint has resisted erosion and is too hard to plow. Bluestem grasses that grow abundantly there make the area a lush pastureland. Grazing is a major economic activity.

The Great Plains cover the western half of Kansas. This region slopes upward from about 1,500 feet (457 meters) above sea level in the east to about 4,000 feet (1,200 meters) at the Colorado border. In the western third of Kansas are the High Plains. This is the flattest part of the state, though it is also the highest in elevation. The Red Hills are along the southern border and the Smoky Hills in the north. This area also contains lowlands that fill with water and provide wetland habitats for a great variety of birds and other animals.

Rivers and lakes. Rivers in Kansas generally flow

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Walnut Creek	D	3
Walnut R.	E	6
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White Rock Creek	C	5
Whitewoman Creek	D	2



Specially created for *The World Book Encyclopedia* by Rand McNally and World Book editors

east or southeast. The state has two main river systems. The Kansas, or Kaw, River system drains the northern part of the state. The Arkansas River system drains a large part of the southern section. The Missouri River, along the state's northeast border, is the only major waterway for barges. Other important rivers of Kansas include the Big Blue, Cimarron, Neosho, Republican, Saline, Solomon, Smoky Hill, and Verdigris rivers. In some parts of western Kansas, small streams may flow for a short distance and then disappear as the water soaks into the dry soil of the streambed.

Kansas has about 150 lakes, most of them reservoirs created by dams. Milford Lake, a reservoir on the Republican River covers about 16,000 acres (6,470 hectares) and is the largest lake. Other large lakes include Cedar Bluff, Cheney, Fall River, John Redmond, Kanopolis, Kirwin, McKinney, Pomona, Toronto, Tuttle Creek, and Webster. The state's largest natural lake is Lake Inman, which is about half a mile (800 meters) across.

Plant and animal life. Trees include the ash, black walnut, elm, hackberry, hickory, locust, maple, oak, pecan, redcedar, sycamore, and willow. Cottonwood trees grow along streams and rivers throughout the state, especially in the moist river valleys of the east.

Kansas has nearly 200 kinds of grasses. Tall grasses, especially the bluestem, grow in the east. Shorter types, such as blue grama and buffalo grass, are found in the west. Tumbleweeds grow throughout the west. Sunflowers blossom in summer in all parts of Kansas. Other wild flowers include asters, clover, columbines, daisies, goldenrod, thistles, verbena, and wild morning-glories.

Vast herds of large game animals once roamed the Kansas plains. During the late 1800's, hunters killed many of these animals, especially the *bison* (American buffaloes). Today, bison have been reintroduced in small herds, but smaller animals are most plentiful. These include coyotes, muskrats, opossums, prairie dogs, rabbits, and raccoons. Some antelopes roam the plains. Birds found in Kansas include blue jays, cardinals, crows, meadowlarks, robins, sparrows, woodpeckers, and several kinds of hawks. Game birds, such as ducks, geese, pheasants, prairie chickens, and quail, live throughout the state. Fishes in the state's lakes, rivers, and streams include bass, bluegills, catfish, and crappies. There are many kinds of reptiles, including two kinds of poisonous snakes—copperheads and rattlesnakes.

Climate. Kansas has cold winters and warm summers. Cold air from the north moves easily across the flat plains in winter, and hot winds sweep up from the south in summer. The weather can change suddenly, and sometimes violently. Blizzards, hail, thunderstorms, and tornadoes all occur in the state.

January temperatures average 30 °F (−1 °C), and July temperatures average 78 °F(26 °C). Northern Kansas usually has cooler weather than southern Kansas, but the difference is often slight. Lebanon had the state's lowest temperature, −40 °F (−40 °C), on Feb. 13, 1905. The record high temperature of 121°F (49 °C) occurred in 1936 on July 18 in Fredonia and on July 24 near Alton.

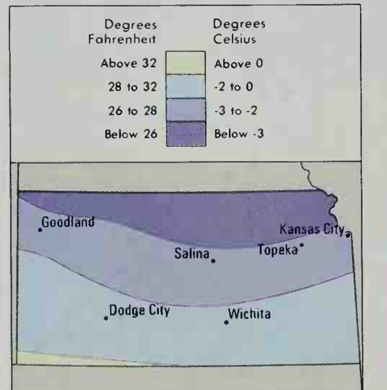
Precipitation falls unevenly on Kansas. The southeast usually gets more than 40 inches (100 centimeters) of moisture a year, and the western border area gets only 16 to 18 inches (41 to 46 centimeters). But the amounts can vary greatly from year to year. Snowfall in the state averages about 17 inches (43 centimeters) a year.

Average monthly weather

Wichita	Temperatures F High	F Low	C° High	C° Low	Days of rain or snow	Topeka	Temperatures F High	F Low	C° High	C° Low	Days of rain or snow
Jan.	41	23	5	5	7	Jan.	39	19	4	-7	6
Feb.	48	27	9	-3	4	Feb.	44	23	7	-5	7
Mar.	56	34	13	1	5	Mar.	54	31	12	-1	9
Apr.	67	45	19	7	8	Apr.	66	43	19	6	10
May	75	55	24	13	12	May	75	53	24	12	13
June	86	65	30	18	9	June	85	63	29	17	10
July	92	69	33	21	5	July	91	68	33	20	10
Aug.	92	68	33	20	6	Aug.	89	66	32	19	8
Sept.	83	61	28	16	6	Sept.	81	57	27	14	5
Oct.	71	50	22	10	6	Oct.	71	45	22	7	6
Nov.	55	35	13	2	4	Nov.	54	31	12	-1	5
Dec.	45	26	7	-3	4	Dec.	43	22	6	-6	6

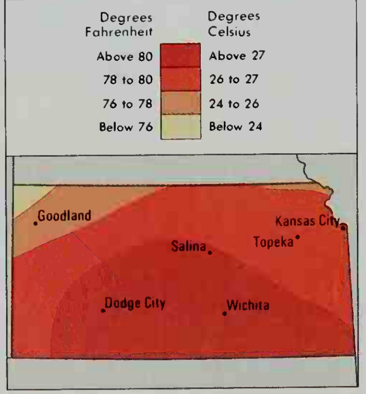
Average January temperatures

Kansas has cold winters. Cold air from the north moves across the flat plains, moderating as it travels southward.



Average July temperatures

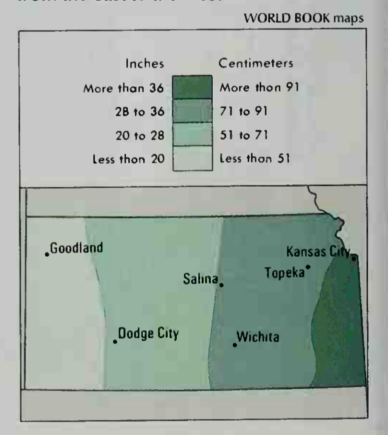
Hot winds from the south give the state warm summers. The northwest generally has the mildest summer temperatures.



Average yearly precipitation

Kansas has broad variations in precipitation, with the amount steadily decreasing from the east to the west.

WORLD BOOK maps



Service industries, taken together, account for the largest portion of Kansas's *gross state product*—the total value of all goods and services produced in a state in a year. Such activities as finance, government, and trade have replaced agriculture as the mainstay of the state's economy.

Kansas remains a leading farm state, however, and farming contributes to the larger sectors of the economy. For example, getting agricultural products from farms to processors provides economic opportunities for people employed in the areas of wholesale trade and transportation.

Manufacturing in Kansas is centered in Kansas City and Wichita. Wichita is famous as the nation's leading producer of commercial and private aircraft. Construction and mining are relatively small parts of the state's economy. The mining industry in Kansas consists mainly of extracting petroleum and natural gas from fields in western Kansas.

Natural resources. The most important natural resources of Kansas are fertile soil and rich mineral deposits. Both strongly influence the state's economy .

Soil. Most of Kansas has a loamy, fertile soil suitable for growing many kinds of crops. The northeastern region has the most productive soil. This soil is black or dark brown. Central and northwestern Kansas have fertile soil, but these rich areas get less rain than eastern Kansas. The soil of southwestern Kansas is often sandy, and there are some sand dunes along the Arkansas River. Reddish soils are found in the Barber County area.

Severe droughts in the 1930's and 1950's taught Kansas the importance of conserving soil and water. The state and federal governments built many dams to create reservoirs and ponds to hold water and to keep it from washing away the soil. Farmers use special methods of farming, such as contour plowing, limited tillage, and terracing, to conserve soil and water. Grass has been replanted in areas hit hard by winds. The grass helps keep the soil from blowing away.

Minerals. Petroleum and natural gas are found in most parts of Kansas. Oil reserves total about 175 million barrels. Other valuable mined products found in Kansas include clays, gypsum, helium, natural gas liquids, salt, sand and gravel, and stone. Great reserves of salt rock, called *halite*, lie under the state.

Service industries account for the largest part of the gross state product of Kansas. Most of the service industries are concentrated in the state's four metropolitan areas: Kansas City, Lawrence, Topeka, and Wichita.

Wholesale and retail trade ranks first among the service industries of Kansas in terms of the gross state product. The leading types of retail establishments are automobile dealerships and grocery stores. Department stores, restaurants, and service stations are also important. Leading wholesale trade activities include distributing farm products, groceries, machinery, and motor vehicles. The Kansas City and Wichita areas are the leading centers of wholesale and retail trade in Kansas.

Community, business, and personal services rank second among Kansas's service industries. This group employs more people than any other industry in the state. This industry group consists of a variety of establishments, including private health care, law firms, data processing companies, hotels, and repair shops. Several major companies operate customer service call centers in Topeka and Wichita.

Production and workers by economic activities

Economic activities	Percent of GSP* produced	Employed workers: Number of people	Employed workers: Percent of total
Wholesale & retail trade	19	381,000	22
Community, business, & personal services	18	467,100	26
Manufacturing	18	219,400	13
Government	13	270,800	16
Finance, insurance, & real estate	13	107,400	6
Transportation, communication, & utilities	11	84,800	5
Construction	4	90,600	5
Agriculture	3	101,400	6
Mining	1	20,500	1
Total	100	1,743,000	100

*GSP = gross state product, the total value of goods and services produced in a year.
Figures are for 1998.
Sources: *World Book* estimates based on data from U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics.

Government services rank third among Kansas's service industries in terms of the gross state product. These services include the operation of public schools and hospitals, and military activities. State government activities are centered in Topeka, the state capital. The federal government operates Fort Leavenworth, Fort Riley, and McConnell Air Force Base. Fort Leavenworth includes a major federal penitentiary. The federal penitentiary and a nearby state penitentiary employ many people in the Leavenworth area. Local school districts and public universities are major employers in Kansas.

Ranking next among the service industries of Kansas are finance, insurance, and real estate. The Kansas City area is the state's most important financial center. Overland Park, at the southern end of the Kansas City area, is the home of dozens of insurance companies and several major banks. Insurance companies are also concentrat-



Cessna Aircraft Company

Light-airplane manufacturers in Wichita build about two-thirds of the civilian aircraft produced in the United States.

ed in the Topeka area. The Wichita area is an important financial base for people of the central Kansas region.

Transportation, communication, and utilities are a more important part of the economy in Kansas than in most other states. Kansas's central location makes it an important link in the United States transportation system. The state's farmers rely on trucks and trains to transport crops and livestock to processing centers. Pipelines transport natural gas and petroleum to Wichita, Kansas City, and major cities outside the state.

Television and telephone companies make up the most economically important parts of the communications industry. Water and electric companies are the major utilities in the state.

Manufacturing. Goods produced in Kansas have a *value added by manufacture* of about $20 billion annually. Value added by manufacture is the increase in value of raw materials after they become finished products. Kansas has about 3,300 manufacturing plants. The Kansas City and Wichita areas are the leading manufacturing centers.

Transportation equipment is Kansas's chief manufactured product. The light-airplane industry of the United States is centered in the Wichita area, which produces about two-thirds of the nation's general aviation aircraft. Military airplanes, missiles, and aircraft parts are also manufactured in the Wichita area. Railroad freight cars, locomotive parts, and passenger cars are manufactured in Atchison, Kansas City, Lawrence, Topeka, and Wichita. Other transportation equipment produced in Kansas includes truck parts, snowplows, and trailers.

Food processing ranks second among Kansas's manufacturing activities in terms of value added by manufacture. Kansas is one of the leading flour-milling states. The largest flour mills in Kansas are located in Hutchinson, Topeka, and Wichita. Animal feed is processed in more than 60 plants in Kansas. Garden City has one of the world's largest meat-packing plants. Dodge City, Liberal, and Emporia also have meat-packing plants.

Machinery ranks third among the manufactured products of Kansas. Construction and farm equipment are the leading types of machinery manufactured in the state.



Kansas Dept. of Commerce and Housing

Petroleum production is the leading mining activity in Kansas. Petroleum is mined in many parts of the state. The oil well shown here operates near Galva in central Kansas.

Rubber and plastics products rank next among Kansas's manufactures. Factories in Lenexa, McPherson, Wichita, and Winfield make a variety of plastics products. Motor vehicle tires are the most important rubber product made in the state.

The production of printed materials is also a leading manufacturing activity in Kansas. Kansas City has the state's largest business printing and newspaper operations. A plant in Topeka is one of the largest producers of school yearbooks in the United States.

Other products manufactured in Kansas include chemicals, electrical equipment, paper products, petroleum products, and stone, glass, and clay products.

Agriculture. Kansas ranks among the country's leading states in the value of farm products. Farmland covers about 90 percent of the state. Kansas has about 65,000 farms.

Beef cattle and wheat generate more income for Kansas farmers than any other products. Together, these two products account for nearly three-fourths of Kansas's farm income. Beef cattle bring in about 60 percent, and wheat earns about 13 percent. Kansas ranks among the nation's leaders in wheat production and in number of beef cattle. More than 6 million beef cattle graze on Kansas farms. Wheat grows in every county. The central part of Kansas produces the most wheat. The western part of the state ranks second.

The other leading farm products include corn, soybeans, grain sorghum, hay, and hogs. Kansas is among the leading states in the production of hay and grain sorghum, both of which are used for livestock feed. Southwestern Kansas produces the most grain sorghum and corn. Milk is also an important agricultural product.

In some dry parts of western Kansas, farmers plant crops on only half or two-thirds of their land each year. This procedure, called *summer fallowing,* allows moisture to collect in the unused portion of the land. The Ogallala aquifer, a vast underground reservoir, is a major source of water for irrigation in the western quarter of the state. Kansas farmers served by this aquifer grow corn, hay, sorghum, sugar beets, and wheat. In some areas, the water level of the aquifer has dropped. Farmers increasingly use conservation measures to protect the aquifer's supply of irrigation water.

Mining. Nearly every county in Kansas has some mineral production. Petroleum and natural gas are the state's most valuable mined products.

Petroleum production is highest in west-central Kansas. Barton, Ellis, Rooks, and Russell counties combine to produce nearly a fourth of the state's oil. Most of the natural gas produced in Kansas comes from the southwestern part of the state. The Hugoton gas field, which stretches across eight Kansas counties, is one of the largest natural gas reserves in the United States. It produces most of Kansas's natural gas.

Other mineral products include gypsum, helium, limestone, and salt. Gypsum comes from mines in Barber County in south-central Kansas. Helium is extracted from natural gas fields. Limestone, which is used mainly for crushed stone in roadbeds, comes mostly from eastern Kansas. Salt comes from *brine* (salt water) wells and rock salt mines near Hutchinson, Kanapolis, and Lyons.

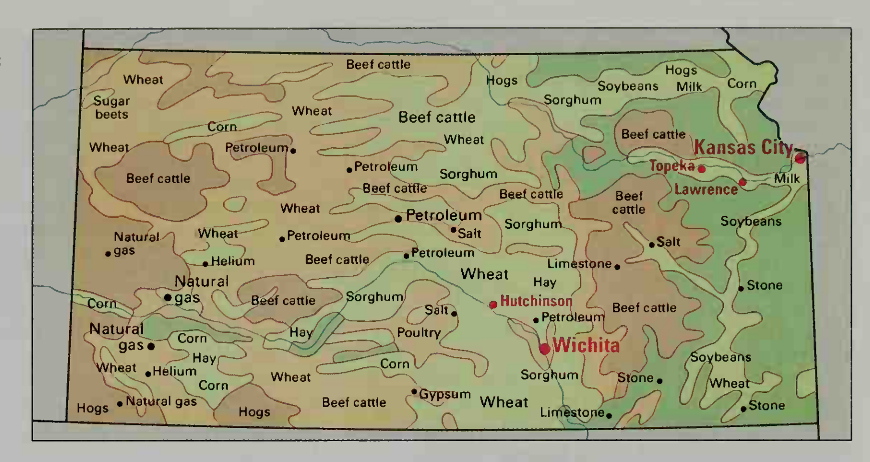
Electric power. About two-thirds of the electric power in Kansas is produced by plants that burn coal.

Economy of Kansas

This map shows the economic uses of land in Kansas and where the state's leading farm and mineral products are produced. Major manufacturing centers are shown in red.

- Mostly cropland
- Woodland mixed with cropland
- Grazing land mixed with cropland
- Mostly grazing land
- Manufacturing center
- Mineral deposit

WORLD BOOK map



About 25 percent is produced by a nuclear plant in Burlington. The rest of the state's electric power comes from plants that burn natural gas or petroleum.

Transportation. The central location of Kansas makes the state an important link in the U.S. transportation system. Pioneer wagon trains followed trails through the region during the 1800's, and early railroads chose routes across the flat plains of Kansas. The first railroad in the state was a 5-mile (8-kilometer) line that was built in 1860. It ran from Elwood to Wathena.

Today, Kansas has about 133,000 miles (214,000 kilometers) of roads and highways. It ranks among the leading states in total distance covered by highways. The extensive road system is needed to connect the state's many farm communities with market centers. Major highways include the Kansas Turnpike and Interstates 35 and 70. The Kansas Turnpike links Kansas City, Topeka, and Wichita. Interstate 35 cuts diagonally across the east side of the state. Interstate 70 crosses the entire state, stretching from the Colorado border on the west to the Missouri border on the east.

Wichita and Kansas City are the leading rail centers of Kansas. Eleven railroads provide freight service in the state. Passenger trains serve seven cities in Kansas.

Wichita has the state's busiest airport. Kansas City International Airport, which serves the Kansas City metropolitan area, is located in Missouri.

Communication. The state's first newspaper was the monthly *Shawnee Sun,* published by Jotham Meeker, a missionary, in 1835. Meeker printed the paper in the Shawnee Indian language for members of that tribe. The first English-language paper, the *Kansas Weekly Herald,* appeared in Leavenworth in 1854. Today, the state's leading newspapers are *The Topeka Capital-Journal* and *The Wichita Eagle.* About 260 newspapers are published in Kansas, including about 45 dailies. About 120 periodicals are published in the state.

KFH, Kansas's first radio station, began broadcasting from Wichita in 1922. In 1932, Kansas State College (now Kansas State University) received one of the first television licenses in the United States. The college operated an experimental television station, WQKAK. The first commercial television station in Kansas, KTVH, began operating in Hutchinson in 1953. Kansas has about 130 radio stations and 20 television stations. Cable TV systems and Internet providers serve many communities.

Government

Constitution. Kansas is governed under its original Constitution, which was drawn up in 1859. This basic law has been amended many times. Amendments must be approved by two-thirds of the members in each house of the Legislature, and by a majority of the voters. A constitutional convention also may pass amendments. Such a convention may be called only with the approval of two-thirds of the legislators and a majority of the people who vote on the issue in a statewide election. The Legislature must call an election to approve the convention's actions.

Executive. The governor and lieutenant governor are elected to four-year terms. They may be elected to an unlimited number of terms, but not more than two in a row. Other top elected state officials include the secretary of state, attorney general, treasurer, and commissioner of insurance. Each is elected to a four-year term, and may serve an unlimited number of terms. The governor appoints members of many state boards.

Legislature consists of a 40-member Senate and a 125-member House of Representatives. Each senator and representative is elected from a separate district. Senators serve four-year terms, and representatives serve two-year terms.

The Legislature meets each year, beginning on the second Monday in January. Legislative sessions are scheduled for 90 days. A session can be extended by a two-thirds vote of the Legislature. Special sessions may be called by the governor or by a petition of two-thirds of the members of the Legislature.

In 1933, Kansas became the first U.S. state to form a *legislative council.* This council, now known as a legislative coordinating council, consists of leaders of the state Senate and House of Representatives.

The governors of Kansas

	Party	Term		Party	Term
Charles Robinson	Republican	1861-1863	**Jonathan M. Davis**	Democratic	1923-1925
Thomas Carney	Republican	1863-1865	**Ben S. Paulen**	Republican	1925-1929
Samuel J. Crawford	Republican	1865-1868	**Clyde M. Reed**	Republican	1929-1931
Nehemiah Green	Republican	1868-1869	**Harry H. Woodring**	Democratic	1931-1933
James M. Harvey	Republican	1869-1873	**Alfred M. Landon**	Republican	1933-1937
Thomas A. Osborn	Republican	1873-1877	**Walter A. Huxman**	Democratic	1937-1939
George T. Anthony	Republican	1877-1879	**Payne Ratner**	Republican	1939-1943
John Pierce St. John	Republican	1879-1883	**Andrew F. Schoeppel**	Republican	1943-1947
George W. Glick	Democratic	1883-1885	**Frank Carlson**	Republican	1947-1950
John Alexander Martin	Republican	1885-1889	**Frank L. Hagaman**	Republican	1950-1951
Lyman Underwood Humphrey	Republican	1889-1893	**Edward F. Arn**	Republican	1951-1955
			Fred Hall	Republican	1955-1957
Lorenzo D. Lewelling	Populist	1893-1895	**John McCuish**	Republican	1957
Edmund Needham Morrill	Republican	1895-1897	**George Docking**	Democratic	1957-1961
John W. Leedy	Populist	1897-1899	**John Anderson, Jr.**	Republican	1961-1965
William Eugene Stanley	Republican	1899-1903	**William H. Avery**	Republican	1965-1967
Willis Joshua Bailey	Republican	1903-1905	**Robert Docking**	Democratic	1967-1975
Edward Wallis Hoch	Republican	1905-1909	**Robert F. Bennett**	Republican	1975-1979
Walter Roscoe Stubbs	Republican	1909-1913	**John W. Carlin**	Democratic	1979-1987
George Hartshorn Hodges	Democratic	1913-1915	**Mike Hayden**	Republican	1987-1991
Arthur Capper	Republican	1915-1919	**Joan Finney**	Democratic	1991-1995
Henry J. Allen	Republican	1919-1923	**Bill Graves**	Republican	1995-

A law passed in 1975 required the Legislature to *reapportion* (redivide) the House and Senate districts every 10 years, beginning in 1979, to provide equal representation based on population. The law requires the Kansas Supreme Court to approve each reapportionment plan.

Courts. Kansas's highest state court is the Supreme Court, made up of seven justices. The justices serve six-year terms. The next highest court is the Court of Appeals, with 10 judges. The appellate judges serve four-year terms.

New justices of the state's Supreme Court are appointed by the governor from a list of candidates made up by a Supreme Court nominating commission. After a new justice has held office for a year, the voters decide in an election whether the justice can continue for a regular term. The justice with the longest service on the Supreme Court serves as the court's chief justice. The chief justice of the Supreme Court appoints the chief judge of the Court of Appeals from among the judges.

District courts handle most major civil and criminal cases. District judges may be either elected or appointed to four-year terms. Voters in each judicial district choose the method of selection.

Local government in Kansas is carried on through 105 counties and about 625 cities. A board of county commissioners consisting of three or five members administers each county. Commissioners are elected from separate districts and serve four-year terms. Other county officials include the county attorney, county clerk, register of deeds, sheriff, and treasurer. Each of the four counties with the largest populations has an election commissioner. Kansas cities have a wide choice in their form of government. Most of them, especially the smaller cities, have a mayor-council form of government. Several of the larger cities are governed by commissions.

In 1961, an amendment to the state constitution gave the cities of Kansas *home rule* power. This power gave the cities control over their own affairs in such matters as licensing and taxation. In certain cases, Kansas cities may change laws passed by the state or exempt them-

Kansas Dept. of Commerce and Housing



State representatives meet in the assembly hall of the Kansas House of Representatives in Topeka. Representatives serve two-year terms.

selves from state laws. In 1974, the Legislature granted the counties of Kansas home rule power similar to that of the cities.

Revenue. The government of Kansas gets more than half of its *general revenue* (income) from state taxes. Personal and corporate income taxes and a general retail sales tax provide most of the money. The state levies taxes on motor vehicle licenses and motor fuels to pay for highway construction and maintenance. About a sixth of the state government's revenue comes from United States government programs.

Politics. Kansas has traditionally voted strongly Republican in both national and local elections. Kansas voters usually elected Republican governors during the late 1800's and early 1900's. But since 1956, Democrats have won more gubernatorial elections than Republicans. Democratic presidential candidates have won in Kansas only six times. For the state's electoral votes and voting record in presidential elections, see **Electoral College** (table).

History

Indian days. Before Europeans came, four Indian tribes probably lived in what is now eastern Kansas. The tribes were the Kansa, Osage, Pawnee, and Wichita. These Indians hunted buffalo, and raised beans, corn, and squash. The Arapaho, Cheyenne, Comanche, Kiowa, and other tribes came to the central plains after obtaining horses during the early 1600's. They hunted buffalo in Kansas and in other areas of the West.

Exploration. In 1541, the Spanish explorer Francisco Vásquez de Coronado led the first Europeans into the Kansas region. Coronado's party searched for a land called Quivira. An Indian guide had told them they would find gold there. But the Spaniards found no treasure, and they left without establishing settlements. In the late 1600's, French explorers claimed large areas of North America for France. These claims included the land that is now Kansas. In the early 1700's French fur trappers came to the area. The French settled only in the northeastern corner of the Kansas region.

In 1803, France sold the territory called Louisiana to the United States (see **Louisiana Purchase**). This territory included most of present-day Kansas. Spain still claimed a small portion in the southwestern part of what is now Kansas. This portion later became part of Mexico, and then part of Texas.

Settlement. The government of the Kansas region changed several times during the early years of U.S. control. At various times the region was part of the District of Louisiana, the Louisiana Territory, and the Missouri Territory. In 1825, the federal government decided to take land from Indians in the East and give them Kansas land in return. Between 1825 and 1842, about 30 tribes were forced off their eastern lands and settled on reservations in the Kansas region. These tribes included the Chippewa, Delaware, Fox, Iowa, Kickapoo, Ottawa, Potawatomi, Sauk, Shawnee, and Wyandot. Other reservations were set aside for the Indians who already lived in the region.

During this period, Kansas was a major path from East to West. Fur trappers, merchants, and settlers used the Santa Fe and Oregon trails through the region. Some white settlement began during these years. Missionaries came to convert Indians to the Christian faith. In 1827, an army officer, Colonel Henry Leavenworth, established the first United States outpost, Fort Leavenworth.

Pressure to open Kansas to white settlement and railroad construction increased about 1850. The U.S. government negotiated with the Indian tribes and took back most of the land. In 1854, the land was opened for white settlement. Many Indians were sent to Oklahoma. In the west, the Plains Indians fought the settlers who poured across the prairie. After many years of bloody fighting, the tribes were moved to reservations in Oklahoma (see **Indian wars** [Death on the plains]). Four Indian reservations remain in Kansas today.

A diverse population settled the farms and towns of Kansas. Major groups in the 1800's included immigrants from England, Ireland, Germany, Sweden, and Russia. Other settlers included Austrians, Bohemians, Czechs, Italians, and Germans from Russia.

The struggle over slavery. In the 1850's, Kansas became the symbol of a nationwide struggle over slavery. During the first half of the 1800's, the slavery issue divided the people of the United States. In Congress, Northerners and Southerners clashed on whether new states and territories would permit slavery. In 1854, Congress found a way to create new territories and avoid the issue of slavery. The answer was *popular sovereignty,* also known as *squatter sovereignty.* The settlers, sometimes called squatters, in each territory would decide for themselves whether to allow slavery. Under this plan, Congress created the territories of Kansas and Nebraska (see **Kansas-Nebraska Act; Popular sovereignty**). Kansas became a territory on May 30, 1854. Andrew H. Reeder was appointed as territorial governor by President Franklin Pierce.

"Bleeding Kansas." Soon settlers from both North and South were streaming into Kansas, aided by groups who wanted to influence the decision on slavery. Kansans who opposed slavery formed a political group called the Free State party. In the elections of 1855, many citizens of the slave state of Missouri crossed the border and voted illegally in Kansas. Proslavery candidates won control of the territorial legislature and passed many proslavery laws.

Violence broke out, particularly in the area close to the Missouri border. In 1856, supporters of slavery burned part of the Free State town of Lawrence. John Brown, a man who hated slavery, led a raid on Pottawatomie Creek, and five proslavery men were killed (see **Brown, John**). More than 50 people died in many other small battles of this period. The violence in Kansas over the slavery issue attracted attention throughout the United States. Newspaper readers waited anxiously for the latest reports from "Bleeding Kansas."

The proslavery group wrote a constitution favoring slavery, but Kansas voters rejected it. Finally, the Free Staters gained control of the legislature and repealed the proslavery laws. A constitution forbidding slavery was written. The voters approved it and asked Congress

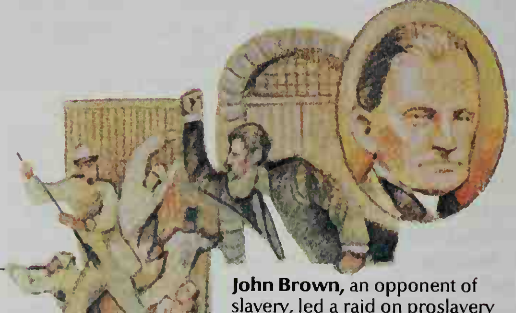
Historic Kansas





Coronado, the famous Spanish explorer, came to the Kansas region in 1541 in search of gold. Finding none, he left the area.

A treaty with the Osage Indians gave travelers through Kansas safe passage on the Santa Fe Trail. The treaty was signed in 1825 at Council Grove.



John Brown, an opponent of slavery, led a raid on proslavery sympathizers in a small Kansas settlement on the Pottawatomie Creek in 1856. The division in the Kansas territory over slavery led to much violence in "Bleeding Kansas."



Kansas cattle towns, such as Abilene, Dodge City, and Wichita, shipped longhorn cattle to other parts of the country by railroads during the 1860's and 1870's.



Nancy Kassebaum of Topeka was elected to the U.S. Senate from Kansas in 1978. She thus became the first woman elected to a full term in the U.S. Senate who did not succeed her husband in either house of Congress.

WORLD BOOK illustrations by Kevin Chadwick

Important dates in Kansas

1541 The Spanish explorer Francisco Vásquez de Coronado entered Kansas.

1803 Kansas became United States territory as a part of the Louisiana Purchase.

1821 William Becknell established the Santa Fe Trail.

1827 Colonel Henry Leavenworth built Fort Leavenworth.

1850's Fighting over the slavery issue gave the region the nickname "Bleeding Kansas."

1854 Congress established the Territory of Kansas.

1861 Kansas became the 34th state on January 29.

1870's Mennonite immigrants from Russia planted and raised the first Turkey Red wheat in Kansas.

1894 Kansas oil and gas fields began producing.

1905 The country's first helium was found near Dexter.

1934-1935 Dust storms damaged great areas of Kansas farmland.

1952-1957 Kansas had its driest five-year period.

1962 The legislature ordered consolidation of small school districts into larger, unified districts.

1972 Terms for governor and other top state offices were increased from two to four years, effective in 1975.

1986 Kansas voters approved a state lottery.

1991-1995 Joan Finney served as governor of Kansas. She was the first woman elected to the office.

for statehood. But many Free Staters had joined the Republican Party. Southern Democrats in Congress would not vote to admit a new Republican state.

Statehood. Kansas became the 34th state on Jan. 29, 1861, after several Southern states had left the Union. The American Civil War started within a few weeks, and Kansas became involved in new violence. Antislavery leader Jim Lane led "jayhawking" raids into Missouri, attacking slaveholders and bringing back freed slaves. In 1863, Confederate raiders under William C. Quantrill burned most of Lawrence and killed about 150 people. During the war, Kansas sent more men to the Union army, in proportion to its population, than any other state. After the war ended in 1865, thousands of Union veterans and newly freed slaves moved into Kansas to claim land. In 1877, blacks established the all-black town of Nicodemus, which still exists.

The great cattle towns. During the late 1860's and the 1870's, railroads built lines into Kansas. The railroads brought settlers in and carried farm products to the East. Cattle owners began to drive herds of longhorn cattle from Texas to Kansas railroad towns.

The trails, the towns, and the people of this era have provided material for books, motion pictures, and television. Famous cattle trails included the Chisholm Trail and the Western Trail. Abilene became the first of the Kansas "cattle towns." Dodge City, Ellsworth, Newton, and Wichita also became cattle centers. Dodge City won the greatest fame. For 10 years after 1875, this bustling city was a major regional shipping point for cattle. The cowboys liked to "whoop it up" after hard weeks of herding cattle, and the cattle towns became wild and disorderly. Wyatt Earp, Wild Bill Hickok, Bat Masterson, and other lawmen won fame for taming the wild towns.

The cattle drives ended by the mid-1880's. Farmers had fenced the open range. The railroads reached Texas. Cattle owners there no longer needed to drive their cattle to Kansas. Kansas ranches continued to operate, and the state had developed a meat-packing industry. But the cattle towns lost their importance as market centers.

The nation's breadbasket. Many early Kansas farmers grew corn and wheat, but drought and insects often ruined their crops. In the 1870's, a religious group called the Mennonites arrived from Russia. They brought a variety of winter wheat called Turkey Red. This wheat was planted in the fall, not the spring. It was harvested early in the summer, and thereby escaped summer heat and many insects. Gradually, production of the wheat spread through Kansas. In 1894, wheat became the state's leading crop. Flour mills were built to process the wheat. Kansas became known as the Breadbasket of America.

Spirit of reform. The state's economy depended largely on its farmers. The farmers suffered during a period of dry weather in the late 1880's and 1890's. They resented the high rates they had to pay for loans from banks. The farmers also wanted low freight rates on grain shipments. To solve these problems, they formed a group called the Farmers' Alliance, which won control of the Kansas Legislature in 1890. The group also helped create a national political party called the Populist Party (see **Populism**). The Populist candidate won the state's electoral votes for president in 1892, and Populist governors were elected in 1892 and 1896.

A spirit of reform swept Kansas, and the ideas of the reform group grew to include a broad program of social change. A limit was placed on interest rates, and new regulations limited the power of banks, railroads, and other large companies. Many saloons were selling alcoholic drinks in violation of Kansas's prohibition law, until a woman named Carry A. Nation began smashing saloons with a hatchet. Nation and her hatchet became famous, and police began to enforce the law more strictly (see **Nation, Carry A. M.**).

The Populist Party declined in the early 1900's, but Progressive Republicans carried on with reforms. They passed laws outlawing child labor, setting up juvenile courts, and reducing railroad rates on grain shipments. Other laws gave women the vote and set up primary elections to choose candidates for office. In 1911, the Legislature passed the nation's first *blue-sky law* to pro-

Kansas State Historical Society



A Confederate raid in Kansas during the Civil War resulted in the destruction of most of Lawrence. William C. Quantrill led Confederate troops in the attack on Aug. 21, 1863. About 150 people lost their lives in the raid.

tect investors against the sale of worthless stocks, bonds, and other securities (see **Blue-sky laws**).

Much of the reform program was passed with the support of a group of newspapermen. This group included Henry J. Allen, Joseph L. Bristow, Arthur Capper, William Allen White, and others. Allen, Bristow, and Capper all served in the U.S. Senate.

Economic progress. During the early 1900's, mineral development boomed in Kansas. Coal, lead, and zinc were mined in the southeast. Oil had been discovered near Neodesha in 1892. Later, oil and natural gas wells were drilled in many areas. In 1905, helium was first found in natural gas near Dexter. An oil discovery near El Dorado in 1915 started a boom. The production from these fields made Kansas a leading mining state.

After the United States entered World War I in 1917, many factories were built in Kansas to produce war supplies. Farm production, particularly of wheat, was increased to meet wartime food needs. After the war, manufacturing industries continued to develop. Farmers, however, did not share in the prosperity of the 1920's because farm prices were low.

The Great Depression of the 1930's brought hardships to Kansans. Farm prices dropped even further. Many banks failed, and factories closed. Western Kansas suffered a long period of drought. The soil became dry and powdery. Winds whipped this dry soil into huge, blinding clouds of dust. People often could not eat or drink without feeling gritty dust between their teeth. A great area of the plains became known as the Dust Bowl.

Many farmers left their damaged land, but others fought back with help from the federal and state governments. They tried new methods of farming, and planted trees to break the sweep of the wind.

Alfred M. Landon served two terms as governor of Kansas during this period. He attracted much attention by balancing the state budget. In 1936, the Republican party nominated Landon for U.S. president. Landon was defeated by President Franklin D. Roosevelt.

Economic and political changes. World War II (1939-1945) created a great demand for Kansas farm and mineral products. It also stimulated growth of the aviation industry, especially in Wichita. Some aspects of the economy continued to grow during the 1950's and 1960's. But the state's main industries, energy and agriculture, suffered major problems. Both industries overproduced, causing low prices. Overall, with the poor condition of the agricultural economy, the state suffered a rapid loss of farms and had only a small increase in population.

A drought almost as severe as that of the 1930's struck in the 1950's, but with less disastrous effect. Methods of soil conservation had improved by this time. Production of crops had also increased because of advances in technology. Irrigation with ground water, a major development that began during the 1960's, allowed farmers to raise corn and grain sorghum in areas of little rainfall. Even without irrigation, improved winter wheat varieties increased wheat production, and Kansas remained the leading wheat-growing state. Nitrogen fertilizers multiplied yields of all crops. With more grain available, cattle feeding boomed. And as feed lots grew, the meatpacking industry thrived.

Agriculture remained important economically, but the population became largely urban. Wichita and Kansas City became the fastest-growing population centers in the state. Many small towns declined in population.

Republican Dwight D. Eisenhower, who grew up in Abilene, served as U.S president from 1953 to 1961. Meanwhile, the Democrats gained strength in tradition-



Kansas State Historical Society

Cattle drives were common in Kansas during the late 1860's and the 1870's. Newly opened railroad lines in the state attracted cattle owners from Texas and other areas who used them to ship their livestock to eastern markets. Dodge City, Abilene, and Wichita became cattle centers.

ally Republican Kansas. Democrats George Docking and Robert Docking, father and son who both served as governor, showed that, politically, Kansas had become a competitive two-party state.

In 1986, the voters approved the legalization of selling liquor by the drink and betting on horse and dog races. They also approved the creation of a state lottery.

In the 1980's, Kansas's economy suffered severely. Low prices plagued the oil industry, and financial difficulties caused the failure of many farms. To try to improve the economy, the government and business people established Kansas, Inc., as the state's economic planning agency. The agency helps businesses expand. Its efforts and other developments contributed to improvement of the state's economy in the 1990's.

Joan Finney, a Democrat, served as governor of Kansas from 1991 to 1995. She was the first woman to be elected governor of the state.

Ellen R. Hansen and Rita G. Napier

Related articles in *World Book* include:

Biographies

Brown, John
Curtis, Charles
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Kassebaum, Nancy L.
Landon, Alfred M.
Menninger, Karl A.
Menninger, William C.
Nation, Carry A. M.
Quantrill, William C.
Ross, Edmund G.
Salter, Susanna M.
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Cities

Abilene
Dodge City
Kansas City
Leavenworth
Topeka
Wichita

History

Buchanan, James (The struggle over slavery)
Civil War (The Kansas-Nebraska Act)
Indian, American
Jefferson Territory
Kansa Indians
Kansas-Nebraska Act
Louisiana Purchase
Western frontier life in America

Physical features

Arkansas River
Dust Bowl
Missouri River
Plain

Other related articles

Chalk
Fort Leavenworth
Fort Riley
Geodetic center of North America

Outline

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B. Schools
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B. Executive
C. Legislature
D. Courts
E. Local government
F. Revenue
G. Politics

VI. History

Questions

What was the Dust Bowl?
What are the major farm products of Kansas?
For what transportation equipment is Wichita famous?
Where did the first Kansas library open?
Why was the state once called Bleeding Kansas?
What U.S. president grew up in Kansas?
When was the state's Constitution written?
Which of Kansas's cattle towns of the 1800's became the most famous?
What was the state's first newspaper?
What kind of wheat did the Mennonites bring to Kansas in the 1870's?

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Level I
Bjorklund, Ruth. *Kansas.* Benchmark Bks., 2000.
Robinson Masters, Nancy. *Kansas.* Children's Pr., 1999.
Thompson, Kathleen. *Kansas.* Raintree Steck-Vaughn, 1996.

Level II
Dickenson, James R. *Home on the Range: A Century on the High Plains.* McGraw, 1995.

Kansas State Historical Society



The Dust Bowl spread over Kansas during the 1930's after widespread drought turned topsoil into a dry powder. Great dust clouds caused by winds whipping across the plains overwhelmed entire towns. Many people were forced to leave their homes.

Goodrich, Thomas. *War to the Knife: Bleeding Kansas, 1854-1861.* Stackpole, 1998.
Richmond, Robert W. *Kansas.* 4th ed. Harlan Davidson, 1999.
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Socolofsky, Homer E., and Self, Huber. *Historical Atlas of Kansas.* 2nd ed. 1988. Reprint. Univ. of Okla. Pr., 1992.

Kansas, University of, is a state-supported coeducational school with campuses in Kansas City, Lawrence, and Wichita. The main campus, in Lawrence, has a college of liberal arts and sciences, and schools of architecture and urban design, business, education, engineering, fine arts, journalism, law, pharmacy, and social welfare. It also has a graduate school. The university's medical center in Kansas City has schools of allied health, medicine, and nursing. The school of medicine also offers clinical programs on its Wichita campus.

The university's libraries in Lawrence feature special collections on ornithology and on such authors as Miguel de Cervantes, James Joyce, D. H. Lawrence, and William Butler Yeats. Museums of anthropology, art, classics, entomology, geology, and natural history are also on the Lawrence campus.

The Kansas legislature in 1864 passed an act establishing the University of Kansas. The school opened in 1866

Critically reviewed by the University of Kansas

Kansas City, Kansas (pop. 149,767), is an industrial city in the northeast corner of the state. The city lies on the Kansas-Missouri border, along both banks of the Kansas River, just west of Kansas City, Missouri. For location, see Kansas (political map).

Kansas City is the third largest city in Kansas. Only Wichita and Overland Park are bigger. Kansas City forms part of the important industrial center known as Greater Kansas City. It is part of the Kansas City, Missouri, metropolitan area, which has a population of 1,776,062.

Description. Kansas City, the seat of Wyandotte County, covers about 112 square miles (290 square kilometers) of rolling, hilly country. The downtown area includes the Kansas City Municipal Building, courthouses, and a regional headquarters for the United States Environmental Protection Agency. Huron Indian Cemetery, an Indian burial ground dating from 1843, has been preserved in the downtown area. The University of Kansas Medical Center is also in the city. The National Agricultural Center and Hall of Fame lies just west of the city.



Rich Grosko

The Municipal Building in Kansas City, Kansas, houses local government offices. Kansas City is the third largest city in Kansas. Only Wichita and Overland Park have more people.

Economy. Kansas City is the chief industrial center of eastern Kansas. Major industries produce automobiles, fiberglass, and soap. Kansas City is also an agricultural center of the plains region of the United States. Grain elevators in the city store great quantities of wheat. The University of Kansas Medical Center is the single largest employer. General Motors Corporation ranks second.

Several railroad freight lines serve the city. Railroad passengers use an Amtrak terminal in Kansas City, Missouri. The Kansas City (Missouri) International Airport and the Downtown Airport in Kansas City, Missouri, serve the metropolitan area.

Government and history. Kansas City and Wyandotte County are governed by the Unified Government of Wyandotte County/Kansas City, Kansas. Voters elect a mayor and 10 commission members to four-year terms. The mayor and commissioners appoint an administrator.

Before whites arrived, the Kansa Indians lived in the area that is now Kansas City. In 1804, the expedition led by Meriwether Lewis and William Clark camped there. In 1818, the United States government made the surrounding area a reservation for the Delaware Indians.

The Wyandot Indians, a tribe from Ohio, purchased the land from the Delaware in 1843. They laid out a community and named it Wyandot City. They built the first free school in Kansas, a church, a community store, and a council house. In the 1850's, white settlers began to move to the city. They soon outnumbered the Indians.

The whites renamed the community Wyandotte. In 1859, a convention in Wyandotte wrote the Constitution under which Kansas gained statehood.

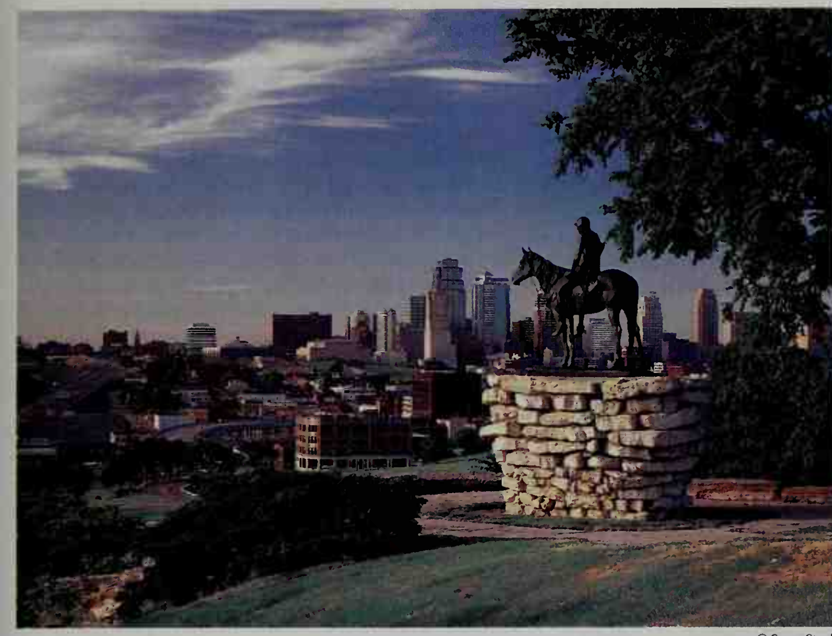
The citizens of Wyandotte played an important part in the antislavery movement. Some blacks settled there after the Civil War ended in 1865. A meat-packing company opened there in 1868. Many European immigrants came to Wyandotte as the meat-packing industry thrived. By 1880, Wyandotte had a population of 3,200.

Other communities grew up around the packing houses. In 1886, Armourdale and Kansas City combined with Wyandotte under the name of Kansas City. Two more towns, Argentine and Rosedale, later became part of Kansas City. In 1900, Kansas City had a population of more than 50,000. The city pioneered in the development of industrial parks by locating industrial plants in open areas away from residential sections.

The first urban renewal program in Kansas started in Kansas City in the late 1950's. It included 11 projects, all completed by 1980. A downtown convention center opened in 1981. This facility is called the Jack Reardon Civic Center, after a three-term city mayor. In 1987, General Motors completed a $1-billion automobile assembly plant to replace an existing plant. In 2001, the Kansas Speedway opened in the western part of the city. The speedway hosts stock car races. Mike Belt

Kansas City, Missouri, is the state's largest city and a Midwestern center of commerce, industry, and transportation. It lies on the western border of Missouri, where the Kansas (or Kaw) and Missouri rivers meet. It was named for the Kansa Indians, who once lived in the area. The city lies just east of Kansas City, Kansas.

In 1821, American Fur Company employees estab-


© SuperStock

Kansas City, Missouri, is the state's largest city and a center of commerce, industry, and transportation. *The Scout,* an American Indian memorial in Penn Valley Park, *foreground,* overlooks the city's downtown area. The American sculptor Cyrus E. Dallin designed the memorial, which was dedicated in 1922.

lished a trading post at the site of what is now Kansas City, Missouri. They became the area's first permanent white settlers.

The city covers 319 square miles (826 square kilometers) in Jackson, Clay, Platte, and Cass counties, north and south of the Missouri River. The oldest and most densely populated part of the city lies south of the river. North of the river, the city has more suburban features.

Kansas City's central business district, an area called the *downtown loop,* is bounded on all sides by interstate highways. It lies just south of the Missouri River. Buildings in the freeway loop include City Hall, the 10th District Federal Reserve Bank, the Jackson County Courthouse, the Municipal Auditorium, a convention center, and state and federal office buildings.

The Kansas City metropolitan area covers 5,407 square miles (14,004 square kilometers). It consists of Cass, Clay, Clinton, Jackson, Lafayette, Platte, and Ray counties in Missouri; and Johnson, Leavenworth, Miami, and Wyandotte counties in Kansas.

The people. About 96 percent of Kansas City's people were born in the United States. Many people are of English, Irish, and German ancestry. African Americans make up about 30 percent of the city's population.

Economy. Kansas City is often called the *Heart of America* because it lies almost in the center of the United States. This location has helped make Kansas City a distribution, telecommunications, transportation, and warehouse center.

Metropolitan Kansas City is the largest winter-wheat market in the United States. It ranks highly among American cities in the capacity of its grain elevators. It also has vast underground storage facilities. A system of limestone mines lies beneath the metropolitan area. Many of these mines have been converted into warehouses.

Kansas City is one of the busiest rail centers in the United States. A number of major railroad freight lines serve the city. Passenger trains link the metropolitan area to other cities. Kansas City is also a center for trucking transportation. Several barge lines operate on the Missouri River. Kansas City International Airport is the city's main air terminal.

Service industries are important to the economy. Federal, state, and local governments and the wholesale and retail trade employ many workers. The city is headquarters for several engineering and architecture firms.

The area also has a large number of manufacturing firms. Automobile assembly, food processing, and printing and publishing rank as the largest manufacturing industries. The city produces more wheat flour than any other U.S. city except Buffalo, New York. Other important industrial activities include the production of chemicals, clothing, electric equipment, fiber-optic communication systems, metal goods, motorcycles, and soap. Kansas City has a daily newspaper, *The Kansas City Star.*

Education. The Kansas City School District and 16 other public school systems serve Kansas City. In addition, thousands of students attend private and church-supported schools.

Kansas City is the site of the University of Missouri-

Facts in brief

Population: *City*—441,545. *Metropolitan area*—1,776,062.
Area: *City*—319 mi² (826 km²). *Metropolitan area*—5,407 mi² (14,004 km²), excluding inland water.
Altitude: 741 ft (226 m) above sea level.
Climate: *Average temperature*—January, 28 °F (-2 °C); July, 81 °F (27 °C). *Average annual precipitation* (rainfall, melted snow, and other forms of moisture)—38 in (97 cm). For the monthly weather in Kansas City, see **Missouri** (Climate).
Government: Council-manager. *Terms*—4 years for the 13 council members. City manager appointed by the council.
Founded: 1821. Incorporated as a city in 1853.

Kansas City, a branch of the state university system. Other institutions of higher learning include Avila College, the Kansas City Art Institute, Midwestern Baptist Theological Seminary, the Research College of Nursing, Rockhurst University, and St. Paul School of Theology. William Jewell College is in nearby Liberty, and Park College is in Parkville. The Midwest Research Institute in Kansas City conducts scientific research.

The Kansas City Public Library and its branches serve the city. The Linda Hall Library is one of the country's largest privately financed libraries of scientific and technical research materials. The Harry S. Truman Library in nearby Independence houses documents and mementos of Truman's presidency.

Cultural life. The Nelson-Atkins Museum of Art is known for its fine collection of Asian art. The museum also houses the Henry Moore Sculpture Garden, which includes the largest collection outside the United Kingdom of the work of the famous British sculptor. Nearby is the Kemper Museum of Contemporary Art. These museums are near the Country Club Plaza shopping district, which is known for its Spanish architecture and fountains.

Kansas City became famous during the 1920's and 1930's for its many jazz clubs, where such musicians as Count Basie and Charlie Parker began their careers. The 18th & Vine Historic District, once the site of many of the jazz clubs, is now the home of the American Jazz Museum. The museum shares its space with the Negro League Baseball Museum. The Kansas City Museum offers exhibits on area history. The Arabia Steamboat Museum features items salvaged from a sunken steamboat. The science museum Science City is located on the edge of the downtown area.

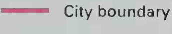
The Lyric Opera of Kansas City presents an annual season of opera performed in English. It performs in the Lyric Theatre. The city-owned Starlight Theater, an outdoor amphitheater, offers a summer program of musicals. The Missouri Repertory Theater, a professional acting company, stages a yearly program of plays. The Kansas City Symphony and the State of Missouri Ballet also perform in the city.

Kansas City's park system includes 176 parks and playgrounds. It covers a total of nearly 9,700 acres (3,900 hectares). Swope Park, which occupies 1,769 acres (716 hectares), is one of the nation's largest city parks. It includes the Kansas City Zoo, the Starlight Theater, golf courses, and a swimming pool. Liberty Memorial, a

Kansas City



Kansas City, called the *Heart of America,* lies in western Missouri on the Kansas border. The map shows a number of points of interest in the Kansas City area, which includes Kansas City, Kansas, and the suburbs of both cities.



City boundary
County boundary
State boundary
Expressway
Other street
Railroad
Point of interest
Park
Military area

0 5 10 15 20 25 Miles
0 5 10 15 20 25 30 35 40 Kilometers

WORLD BOOK maps

monument to World War I (1914-1918) and world peace, stands 217 feet (66 meters) high in Penn Valley Park near downtown. Kansas City is called the *City of Fountains* for its many public and private fountains.

The city is the home of the Kansas City Chiefs of the National Football League and the Kansas City Royals, a major league baseball team. Kansas City also has professional hockey and soccer teams. Every fall, the city hosts the American Royal. This event, held in the old stockyards and meatpacking district along the Kansas River, is one of the nation's largest horse and livestock shows.

Government. Kansas City has a council-manager government. The voters elect a 12-member council and a mayor to four-year terms. The council appoints a city manager as the chief administrative official. A city income tax provides the largest source of revenue.

History. The Kansa Indians lived at the meeting place of the Kansas and Missouri rivers before the arrival of white settlers. By the 1820's, the Kansa and another local tribe, the Osage, had left the area as the result of treaties. During the 1830's, Indian tribes who had been forced from their lands in the East, such as the Shawnee and the Wyandot, settled just across the border.

Two important white settlements also developed in the area that is now Kansas City. The first began in 1821, when François Chouteau and several other employees of the American Fur Company established a trading post there. By the late 1820's, Chouteau had set up his headquarters at a site that became known as Chouteau's Landing. In 1838, a group of investors purchased Chouteau's Landing and named it the Town of Kansas. Steamboat traffic on the Missouri River increased during the 1840's, and the Town of Kansas began to grow.

The second settlement, called Westport, was located 4 miles (6.4 kilometers) south of the Town of Kansas. Westport was founded in the early 1830's and served as a trading center for New Mexico. Overland traffic moved along the Santa Fe Trail, which cut through the town. Later, settlers using the Oregon Trail and gold seekers headed to California traveled through Westport.

The Town of Kansas also profited from the overland trade. It served as the river port for Westport, and many people even called it Westport Landing. In 1850, the Town of Kansas received a charter from Jackson County. In 1853, it was incorporated as the City of Kansas.

The American Civil War (1861-1865) seriously damaged the economy of the area. Many people moved away after the area became the site of bitter fighting between Confederate and Union supporters. The most violent clash, the Battle of Westport, took place in 1864, when about 30,000 soldiers fought just south of Westport. By the end of the war, the profitable river and overland trade had died. Business leaders realized that the future of the City of Kansas depended on railroads. In 1869, the city opened the first railroad bridge over the Missouri River. The bridge helped make the city a link in the nation's transcontinental railroad system. The population grew rapidly, from 3,500 in 1865 to 55,785 in 1880.

During the 1870's and 1880's, the city developed as a market for the grain of the surrounding farmland. It also became a stockyard center as the railroads brought cattle from the West. Meat-packing and flour-milling industries developed. In 1889, a new charter officially changed the city's name to Kansas City. Westport became part of Kansas City in 1897, and the population reached 163,752 in 1900.

Kansas City continued to grow as a center of commerce and industry. By 1920, it had a population of 324,410. During the 1920's, the Democratic Party machine of Thomas J. Pendergast gained control of the city government. The Pendergast machine supported many civic improvements, but corruption became common among Kansas City politicians. In 1940, a reform group won control of the city government. Harry S. Truman, a Pendergast-supported U.S. senator from nearby Independence, became vice president in January 1945. He assumed the presidency a few months later when President Franklin D. Roosevelt died.

Kansas City's area increased from 62 square miles (161 square kilometers) to 316 square miles (818 square kilometers) in the 1950's and 1960's. The population reached a peak of 507,330 by 1970. It dropped during the 1970's and 1980's but rose during the 1990's. According to the 2000 census, the city had 441,545 people.

Since the 1950's, much urban redevelopment has taken place in Kansas City. In the mid-1970's, a convention center was built in a previously run-down section of the downtown loop. Crown Center, another major project, includes apartment buildings, hotels, office buildings, restaurants, and shops south of the loop. In the mid-1980's, developments in the downtown loop included new construction and the restoration of the old Quality Hill neighborhood.

In 1999, the renovation of Union Station was finished. The 1914 building at the edge of the downtown area became a theater and restaurant complex and the home of a science museum. The area north of the depot, known as the Freight House District, has become a popular site of art galleries and restaurants. A major flood control and beautification project improved Brush Creek, which flows through the Country Club Plaza. Darryl W. Levings

See also **Pendergast, Thomas Joseph.**

Kansas-Nebraska Act was passed by Congress in 1854. It provided that two new territories, Kansas and Nebraska, were to be made from the Indian land that lay west of the bend of the Missouri River and north of 37 degrees north latitude. Senator Stephen A. Douglas of Illinois introduced the bill into Congress.

Midwesterners had tried to get a new territory organized in Nebraska for four years. They wanted to see the region opened for settlement. Douglas was influenced by the Midwesterners, especially Missourians, and may also have been influenced by his desire for a railroad from Chicago to the Pacific Coast.

Douglas included in his bill a provision for "popular sovereignty" in Kansas and Nebraska. This provision stated that all questions of slavery in the new territories were to be decided by the settlers rather than by Congress. The provision was designed to win the support of the Southern congressmen and was directly contrary to the Missouri Compromise of 1820. The Missouri Compromise had declared that all land in the Louisiana Purchase north of 36° 30', except for the state of Missouri, was to be free. Douglas was persuaded by the Southerners to declare the Compromise "inoperative and void."

Antislavery people furiously attacked the Kansas-Nebraska Bill. The debate in Congress was long and bit-

ter. But President Franklin Pierce supported the bill, and it became law. The Kansas-Nebraska Act made slavery legally possible in a vast new area. The act revived the bitter quarrel over the expansion of slavery, which had died down after the Compromise of 1850, and it hastened the start of the Civil War. Robert F. Dalzell, Jr.

Related articles in *World Book* include:

Compromise of 1850	Popular sovereignty
Douglas, Stephen A.	Republican Party (Origin)
Missouri Compromise	Slavery
Pierce, Franklin (The Kansas-Nebraska Act)	

Kant, *kant* or *kahnt,* **Immanuel** (1724-1804), was an important German philosopher. His work was influential because he established the main lines for philosophical developments since his day.

In his chief work, *Critique of Pure Reason* (1781), Kant discussed the nature and limits of human knowledge. This question became important to him because of Scottish philosopher David Hume's theories. Before Hume, most philosophers assumed that our past experience could provide knowledge about matters that go beyond our experience. But Hume argued that we cannot be certain of anything beyond our experience. For example, the law of universal gravitation states that a force of attraction acts between all objects. But our experience is restricted to only a few objects that we have observed. We cannot be certain that the force operates on objects beyond our experience (see **Hume, David**).

Kant's ideas. Kant believed that we cannot justify claims beyond our actual experience as long as we continue to think of the mind and its objects as separate things. He held instead that the mind is actively involved in the objects it experiences. That is, it organizes experience into categories, or forms of understanding. All things capable of being experienced are also arranged in these categories. Kant believed that we can have knowledge of what we have not yet experienced as well as what we have already experienced. But he limited this knowledge to *possible* experience.

Kant's conclusions meant having to abandon any claim to know things as they are in themselves, things in which the mind is not involved. But he did not deny the existence of things in themselves, which he called *noumena.* Some philosophers regarded this refusal to claim absolute knowledge as too serious a limitation on a system of philosophy. Other philosophers argued that we have an intuitive, nonrational knowledge of things.

Kant also wrote on theology and ethics. He argued that the existence of God cannot be proved or disproved by the use of reason. According to Kant, reason is restricted to ideas of possible experience, and the idea of God transcends all possible experience. Yet Kant held that faith could be rational because we cannot think of the world as orderly or justify our morality without supposing the existence of God.

In ethics, Kant tried to show (1) that doing one's duty consisted in following only those principles that one would accept as applying equally to all, and (2) that even assuming that scientists can predict what we are going to do, the predictions do not conflict with our use of free will. Therefore, the predictions of scientists have no bearing on our duty to live morally. Kant's chief work on ethics is the *Critique of Practical Reason* (1788).

His life. Kant was born and lived in Königsberg, in East Prussia (now Kaliningrad in Russia). He taught at Königsberg University for nearly 50 years.

Douglas M. Jesseph

See also **Ethics** (Kant); **Philosophy** (The philosophy of Immanuel Kant); **Political science** (Liberalism).

Additional resources

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Kuehn, Manfred. *Kant.* Cambridge, 2001.

Kaolin, *KAY uh lihn,* is a pure white clay made of feldspar that has decomposed. It consists of the mineral kaolinite, which has the chemical formula $Al_4Si_4O_{10}(OH)_8$. Kaolin occurs as a fine powder made of tiny platelike crystals. It is widely used for making the highest grades of pottery. The word *kaolin* comes from a Chinese word meaning *high hill.* Kaolin is also called *china clay* and *porcelain clay.* Important kaolin-producing countries are the United States, the United Kingdom, France, and Germany. Kaolin-producing states include Georgia, South Carolina, Pennsylvania, Florida, and North Carolina.

Kaolin is either mined dry with a shovel, or dislodged with jets of water and sucked into a pump system. Then it is washed and put through separation processes to remove sand, mica, and iron-oxide impurities. Excess water is then removed, and the clay is formed into cakes that are dried and shipped to potteries. Kaolin is also used in textiles, as a coating for paper, and as a filler for rubber tires. Robert W. Charles

See also **Porcelain; Pottery.**

Kapok, *KAY pahk* or *KAP uhk,* is a light, soft, lustrous, cottonlike fiber. It is composed primarily of the plant material cellulose. It comes from the seed pods of the kapok tree. Kapok trees grow in Indonesia, the Philippines, India, Sri Lanka, tropical America, and Africa.

After the ripe fruit of the kapok tree is picked, the seeds and fibers are taken out and dried in the sun. Workers then separate the seeds and fibers and pack the fibers into bales.

Kapok is light and verminproof and does not absorb water readily. It is useful as a filling for mattresses and furniture, and also as a substitute for cork in life jackets. But in many of these uses, kapok is being replaced by synthetic fibers, which cost less and are more durable.

Kapok seeds yield an oil that is used in making soap and cattle feed. The tree produces a gum used in medicine. The light, soft wood is used for canoes and rafts.

Christine W. Jarvis

Scientific classification. The kapok, or silk-cotton, tree belongs to the bombax family, Bombacaceae. Its scientific name is *Ceiba pentandra.*

Kara Sea, *KAHR uh,* an arm of the Arctic Ocean, lies off the northern coast of Siberia, between the Kara Strait and the Severnaya Zemlya Islands. The Kara Sea is about 900 miles (1,450 kilometers) long and 600 miles (970 kilometers) wide. Ice blocks the sea most of the year, but shipping to the Yenisey and Ob rivers occurs for about two months in summer. The Kara Strait connects the sea with the Barents Sea. Craig ZumBrunnen

Karachi, *kuh RAH chee* (pop. 5,208,170), is the largest city and chief port of Pakistan. It is also the country's commercial and industrial center and the capital of Sind Province. The city lies on Pakistan's southern coast. For

location of Karachi, see **Pakistan** (political map).

The city is at the edge of a desert on the Sind Plain. The Layari River flows through Karachi and forms an excellent harbor where it empties into the Arabian Sea.

The center of Karachi, which is next to the harbor, is the most heavily populated section. It includes the main bazaar, or market, called the Sadr, and most of Karachi's important buildings. Attractions in or near this area include the Mausoleum of Mohammed Ali Jinnah, the National Museum, and the Zoological Gardens. Residential areas are scattered around the city, and the chief industrial districts are in the suburbs. Suburban towns provide housing for the rapidly growing population.

Karachi is an important educational center and has several universities and many other schools. Several departments of Pakistan's government are in the city. The area also includes many popular beach resorts.

Economy. Factories manufacture textiles, printed materials, steel, food products, chemicals, transportation equipment, and other products. The city has a shipyard, and its port serves as the gateway for Pakistan's foreign trade. Railroads link Karachi to northern Pakistan. Karachi's international airport, one of the largest in Asia, is 9 miles (14 kilometers) from the city's center.

History. In 1729, a trading village developed near the present site of Karachi's harbor. The village was soon named Karachi. By the mid-1800's, about 14,000 people lived in Karachi and its suburbs. After the British gained control of the region in 1843, Karachi became an important port and commercial center. In 1947, Pakistan won independence from Britain. Karachi served as the new nation's capital from 1947 to 1959, when Islamabad was named the capital.

Since 1945, Karachi's population has grown from about 400,000 to over 5 million. The city has a shortage of fresh water, which must be pumped from the interior of Pakistan. The city faces other problems, including air pollution, overcrowding, slums, and violence. The violence results from conflicts between rival ethnic, political, and religious groups. Riffat Sardar

Karajan, *KAH rah yahn,* **Herbert von** (1908-1989), was one of the leading symphony orchestra and opera conductors of the 1900's. Karajan was known for his interpretations of the symphonies of Gustav Mahler and the music of Viennese composers of the 1900's.

Karajan was born in Salzburg, Austria, and received his musical training there and in Vienna. He served as music director, conducting opera and orchestral music in Aachen, Germany, from 1934 to 1941. In the late 1940's, he became a conductor of the Vienna Philharmonic and Vienna Symphony orchestras. He served as artistic director of the Berlin Philharmonic Orchestra from 1955 until he resigned in 1989. He was artistic director of the Salzburg Festival from 1956 to 1960, and rejoined the festival in 1964. Karajan was director of the Vienna State Opera from 1956 to 1964, returning to the company in 1977. He resigned as director of the Salzburg Festival in 1988. Charles H. Webb

Karakul, *KAR uh kuhl,* is a fat-tailed sheep from which we get pelts called broadtail, Persian lamb, and caracul. Furriers use the pelts to make jackets, coats, and hats.

Karakuls are lean and have narrow backs. They can store up enough fat in their tails and back legs to live on when food is scarce. The *rams* (males) have widespreading, spiral horns, but the *ewes* (females) usually have none. The coarse fleece of the adult is white, yellowish, gray, brown, or black. Young Karakul lambs have a silky fleece, which in most cases is black. But it can be brown, tan, or gray. The fleece has a high luster, and is often curled until the fifth day after the lamb's birth.

In the market, broadtail is the most expensive Karakul pelt. It has a silky, rippled appearance, and usually comes from lambs that were born too soon. Persian lamb, formerly called *astrakhan,* is the tightly curled pelt of lambs from 3 to 10 days old. Caracul is the wavy pelt of lambs not older than 2 months. Most skins are produced in central and southwestern Asia, India, south-

© Robert W. Mitchell, Earth Scenes





© W. H. Hodge from Peter Arnold



© Russ Kinne, Photo Researchers



The kapok flower, *upper left,* usually blossoms every other year. The tassellike flowers are small and normally have an off-white color. Kapok fiber, *upper right,* comes from the tree's seed pods. The cottonlike fiber is used to fill mattresses and other products. The kapok tree, *right,* has a short, thick trunk and many long branches. It grows in tropical climates.



G. K. Brown, ARDEA

Karakuls are raised chiefly in central and southwestern Asia. Their thick, wavy fleece has great commercial value.

western Africa, and southeastern Europe. Some skins are produced in the United States. The skins of young goats are sometimes called *caracul.* Melinda J. Burrill

See also Sheep (picture).

Karakum, *KAHR uh KOOM,* is a large desert that occupies most of Turkmenistan. Karakum covers 135,000 square miles (350,000 square kilometers). For location, see **Turkmenistan** (map). Most of the desert was formed by sandy deposits from a river called the Amu Darya. Karakum's terrain includes flat clay plains, salt basins, and sand mounds. Short-lived bushes and grassy plants sprout in the spring. Wildlife includes antelopes, wolves, wildcats, snakes, lizards, tarantulas, scorpions, and various rodents. Most of the desert is used throughout the year as pasture for sheep, goats, and camels. Farmers grow crops in irrigated oases along rivers. The 750-mile (1,200-kilometer) Karakum Canal provides water for one of the world's largest irrigation systems. Karakum's mineral resources include natural gas, petroleum, and sulfur. Leszek A. Kosiński

Karamanlis, Constantine. See Caramanlis, Constantine.

Karan, *KAR uhn,* **Donna** (1948-), is a leading American fashion designer who creates clothes primarily for executive businesswomen. Her designs brought a softer femininity to the business wardrobe and a new shaping to traditional tailoring. Karan tries to achieve a total look for her customers, emphasizing accessories such as belts and jewelry. She also designs *separates,* which are outer garments such as blouses, skirts, and sweaters. She often creates separates to be combined over a bodysuit. Karan designs some clothes for men and children. Her company also produces perfume, and she licenses a number of products over her name, including eyewear, hosiery, and lingerie.

Donna Ivy Faske was born in New York City. She married clothing retailer Mark Karan in 1970. In 1968, she joined the fashion house of Anne Klein. There she collaborated with Louis Dell'Olio in creating the casual but sophisticated separates that gained her acclaim in the fashion world. Karan started her own company, called the Donna Karan Company, in 1984 and showed her first collection in 1985. She also designs a less expensive line called DKNY. Jean L. Druesedow

Karat. See Gold (Gold alloys).

Karate, *kuh RAH tee,* is a form of unarmed combat in which a person kicks or strikes with the hands, elbows, knees, or feet. Karate is one of several Asian forms of unarmed combat called *martial arts.* The Japanese word *karate* means *empty hand.* Most blows are aimed at body parts that are easily injured, such as the stomach and throat. A karate blow can cripple or kill someone.

There are four major types of karate—Chinese, Japanese, Korean, and Okinawan. All use the same basic techniques, but each stresses certain skills and has its own characteristic style of movement. For example, Korean karate, called *tae kwon do,* emphasizes kicking. Chinese karate, called *kung fu,* also spelled *gongfu,* uses a flowing, circular motion that differs from the hard, powerful movements of the other types. American karate has a combination of Chinese, Japanese, Korean, and Okinawan features. This style developed because many Americans learn more than one type of karate.

In the 1970's and 1980's, many motion pictures and television shows featured karate fights that have stimulated interest in this type of combat. In addition, growing numbers of men and women are learning karate as a means of self-defense. Hundreds of colleges, karate clubs, military and police training schools, and feminist groups teach karate techniques. Many people take part in karate contests as a sport.

Karate training usually takes place in a gymnasium or hall called a *dojo.* Students and teachers wear a uniform called a *gi* that consists of a loose cotton jacket tied with a colored belt, and pants with a drawstring or elastic waist. They train in bare feet.

The students begin by doing exercises to strengthen and stretch their muscles. They toughen their hands and feet by pounding padded boards. The students practice with punching bags, imaginary opponents, and each other. When working with each other, they either stop short of hitting or touch their opponent only lightly. A person strikes with full force only in self-defense.

Karate students may advance through various ranks of achievement, each of which is designated by a belt of a different color. Beginners wear a white belt, and experts wear a black one. Schools award different colors, including brown, green, and purple, for intermediate ranks. Students earn promotions by demonstrating to a licensed examiner or a group of licensed examiners the techniques required for the next rank.

Basic techniques include *stances* (ways of standing) and methods of blocking, kicking, punching, and striking. Stances include the *back stance, cat stance, forward stance,* and *horse stance.* Blocking methods try to stop an opponent's attack. Kicking techniques include the *front kick, hook kick, roundhouse kick,* and *side kick.* Punching involves hitting with the knuckles of the first two fingers. Striking uses other parts of the hand. For example, the edge of the open hand strikes the *knife-hand* blow. Students often practice these techniques in prearranged patterns called *katas (KAH tahs).*

Sound plays a key part. An attacker often gives a yell called a *kiai (KEE aye)* to put maximum force into the blow. This yell is produced by expelling air from the lungs and tightening the stomach muscles. Sometimes, an attacker yells before striking to startle an opponent. Many exhibitions show ways of breaking various



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Karate training includes practice in kicking and striking techniques. When karate students work out, they stop short of hitting each other, or they touch their opponent only lightly.

objects with the hands and feet. However, most karate schools do not require students to practice these techniques.

Karate contests. There are two kinds of karate contests, *form competition* and *free fighting*. In form competition, each contestant demonstrates various forms to a panel of five judges. Each judge awards the contestant 1 to 10 points, and the contestant with the highest total wins.

In free fighting, the contestants fight without prearranged techniques. A referee and four judges watch each match. A contestant scores when he delivers a blow that a majority of the judges consider effective. A blow must start with full force but stop a split second before it hits. Blows to the middle of the body may make light contact. Rules forbid hitting certain areas of the body and using many dangerous karate blows.

History. As early as the 400's B.C., Buddhist monks in India used a form of karate to defend themselves against wild animals. During the A.D. 500's, a group called the *Hwarang* practiced karate in the country of Silla, which later became Korea. The Hwarang were youths picked for training as military leaders.

Karate developed further in the 1600's on the island of Okinawa. A Japanese clan had conquered the island and passed strict laws against owning weapons. As a result, the Okinawans developed many of the unarmed techniques of modern karate. Karate spread to Japan after Okinawa became a Japanese province in 1879.

After World War II ended in 1945, many United States servicemen brought the skill from the Far East. More Americans learned karate during the Korean War (1950-1953) and the Vietnam War (1957-1975). S. Henry Cho

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Karelia, *kuh REE lee uh* or *kuh REEL yuh,* is a republic of Russia. It lies in the northwest part, east of Finland and south of the Murmansk *oblast* (region). It covers 66,560 square miles (172,400 square kilometers) and has about 769,000 people.

Karelians, a Finnish-speaking people, make up most of the population. Rocky ridges, pine forests, and lakes cover much of the land. Lumbering is Karelia's main industry. Mining and commercial fishing are also important. The capital and largest city of Karelia is Petrozavodsk.

Karelia came under Russian rule in the late Middle Ages. But Sweden controlled part of the region from the 1200's to the late 1400's and from the 1600's to the early 1700's. Finland controlled part of Karelia from 1918 to 1920 and from 1941 to 1944. Theodore Shabad

See also **Finland** (History).

Karl-Marx-Stadt. See Chemnitz.

Karloff, Boris (1887-1969), was a British actor known for his chilling performances in American horror motion pictures. Karloff gained fame playing the role of the monster in *Frankenstein* (1931). Thereafter, he played a monster or a villain in most of his movies. Karloff made about 50 silent films and more than 100 sound films from 1919 to 1968.



Culver Pictures

Boris Karloff

Karloff's real name was William Henry Pratt. He was born in London and moved to Canada in 1909. Karloff toured Canada and the United States with small theatrical companies for several years before making his film debut. Karloff's best-known motion pictures include *The Mummy* (1932), *The Bride of Frankenstein* (1935), *Tower of London* (1939), *The Body Snatcher* (1945), *Isle of the Dead* (1945), and *The Raven* (1962). In addition, Karloff appeared in Broadway plays, including *Arsenic and Old Lace* (1941) and *The Lark* (1955). Roger Ebert

Karlovy Vary, *KAHR law vih VAH rih,* also called Karlsbad (pop. 58,541), is a famous health resort in the Czech Republic. It lies on the Ohre River 70 miles (113 kilometers) west of Prague (see **Czech Republic** [map]). Its mineral springs contain bicarbonate of soda, sulfate of soda, and common salt. The most famous of the 19 springs is the *Sprudel,* which has a temperature of 165 °F (74 °C) and yields almost 2,000 quarts (1,900 liters) of water a minute. Chief products include glassware, pottery, and china. Nearby hills have coal and *kaolin,* a clay used in making china. Vojtech Mastny

Karma, *KAHR muh,* is an important concept in several Eastern religions, especially Hinduism, Buddhism, and Jainism. Followers of these religions believe that existence is a continuing cycle of death and rebirth. They teach that the conditions of a person's life result from his or her *karma* (deeds) in previous lives. Similarly, people's present actions determine their future destinies in this world, in heaven, or in hell.

Karma determines the form in which a person will be reborn. Good deeds lead to rebirth in a higher state, perhaps as a wealthy person. Evil deeds may lead to rebirth as a slave or even as an animal. Thus, beliefs about karma both encourage ethical behavior and explain what appear to be unfair conditions in society. Buddhists, Hindus, and Jains agree that the highest religious goal is to end all attachments to worldly things and so free oneself from the effects of karma. The person then achieves a higher level of experience, called *moksha* by Hindus and *nirvana* by Buddhists. Frank E. Reynolds

See also **Sikhism**.

Karnak, Temple of. See Thutmose III.

Karsh, *kahrsh,* **Yousuf,** *YOO suf* (1908-2002), a Canadian photographer, became famous for his portraits of leading international figures in politics, literature, and the arts. Karsh had a solemn photographic style in which light and shadow are placed in strong contrast for dramatic effect. His compositions are simple. He used props and the natural expressions and gestures of his subjects to help reveal their personality.

Karsh's photographs have been widely published and are included in the collections of many museums. His best-known portraits include those of British Prime Minister Winston Churchill, United States President John F. Kennedy, and the famous German-born physicist Albert Einstein.

Karsh was born in Mardin, in Turkish Armenia. In 1924, he was brought to Canada by his uncle. Karsh later worked in Boston for a time as an apprentice to John H. Garo, a photographer noted for his portraiture. In 1932, Karsh opened his own studio in Ottawa, Canada. He became a Canadian citizen in 1946. Charles Hagen

Kart racing is a sport involving small, open racing cars that seat one person. Children and many adults compete in kart racing. The cars are also called *go-karts.*

There are three main types of kart racing events: *sprint, road,* and *speedway.* Sprint events are raced on short road courses $\frac{1}{2}$ mile (0.8 kilometer) or less in length. Most road races are one hour long and held on automobile racing tracks. Speedway events are held on dirt oval tracks $\frac{1}{5}$ mile (0.3 kilometer) long.

Some local kart races feature 8-year-old children competing against one another. Boys and girls can enter some national races at the age of 8. However, most national events require the contestants to be at least 16. Kart racing originated in the United States in 1956.

Critically reviewed by the International Kart Federation

Kashmir, *KASH mihr,* also spelled *Cashmere,* is a large area on the border between India and Pakistan. It covers an area of 85,806 square miles (222,237 square kilometers). For its location, see **India** (political map). Kashmir's official name is Jammu and Kashmir. It has been the center of a dispute between India and Pakistan since 1947. Each country claims Kashmir as part of its territory. The capitals of Kashmir, by traditional use, are Srinagar in the summer and Jammu in the winter.

Several ranges of the Karakoram and Himalayan mountain systems cut across Kashmir. Two of the world's highest peaks, K2 (28,250 feet, or 8,611 meters) and Nanga Parbat (26,660 feet, or 8,126 meters), are in northern Kashmir. The Indus River flows northwestward through Kashmir. A tributary of the Indus, the Jhelum, flows through the famous Vale of Kashmir. There, the climate is mild and the soil well watered.

The people and their work. About 10 million people live in Kashmir. Most are Muslims, but about a fourth belong to other religions, including Hinduism. Culturally, the Muslims and Hindus belong to the same group, with the same language and customs. Most of the people work on farms. Others work in small industries, making shawls and rugs from cashmere wool.

All the farmland in the Vale of Kashmir is under intense cultivation. Only about 6 percent of the land in Kashmir can be used for growing food, and some farms are perched on the sides of hills. Corn and rice are the major crops, and there are many orchards and vineyards. Roses and jasmine provide oil used in perfumes. Kashmir is also famed for its wool and silk.

History and government. Prior to British withdrawal from the subcontinent of India in 1947, an absolute monarch ruled Kashmir. In 1947, the subcontinent was divided into two nations: Pakistan (Muslim) and India (Hindu). The division did not include Kashmir, where hereditary princes ruled. The maharaja of Jammu and Kashmir, a Hindu, tried to avoid joining either country. Pakistani Muslims invaded Kashmir in an attempt to unite Kashmir with Pakistan. The maharaja then made Kashmir a part of India. He formed a parliamentary government.

War raged until 1949, when the United Nations arranged a cease-fire and set up a truce line. The line left the northwestern third of Kashmir under Pakistani control. Pakistan called this land Azad *(Free)* Kashmir. The rest of the area was led by a pro-Indian Kashmiri assembly. The assembly abolished the 105-year-old monarchy and accepted a status of near-independence in the Union of India. But a so-called Free Kashmir Movement, made up of Muslims, refused to recognize the changes.

In 1957, a new constitution became effective. It established Kashmir as a part of India. Pakistan objected vigorously to any move that seemed to link Kashmir more closely to India. Indian control increased after 1957, but the area remained in dispute. China seized parts of Ladakh in northeastern Kashmir in 1959 and 1962.

In August 1965, heavy fighting broke out again between India and Pakistan. A cease-fire went into effect in September. In 1966, India and Pakistan resolved to try to settle their dispute peacefully. However, in 1971, civil war broke out in Pakistan, and Indian forces again fought Pakistanis in Kashmir. In 1972, after the war ended, a new truce line was established between the Indian and Pakistani sections of Kashmir. Since then, fighting has broken out along the truce line from time to time.

In the late 1980's, Muslims in the Indian section of Kashmir staged protests against Indian rule. Some demanded independence for Kashmir, and some wanted Kashmir to unite with Pakistan. In the 1990's, Indian military forces clashed with protesters. Many protesters and some Indian troops were killed. Robert LaPorte, Jr.

See also **Hunza**; **India** (History); **Pakistan** (History).

Kasparov, *kuh SPAHR awf,* **Garry** (1963-), a Russian chess player, became the youngest world champion in chess history at the age of 22. He defeated defending champion Anatoly Karpov, also Russian, in 1985. He defended his title three more times against Karpov.

Kasparov had long been critical of the Fédération Internationale des Échecs (FIDE), the organization that governs chess internationally. In 1993, Kasparov and British challenger Nigel Short broke with FIDE in a dispute over arrangements for the next championship match. They formed a rival organization called the Professional Chess Association (PCA). FIDE then dropped both players from its rating list. Kasparov defeated Short in a title match sponsored by the PCA. He retained his PCA championship by defeating Viswanathan Anand of India in 1995. In 1996, Kasparov defeated an IBM computer in a six-game tournament. In 1997, he lost to a more powerful IBM computer, called Deep Blue, in a six-game match. The PCA dissolved in 1998. In 2000, Kasparov lost to Vladimir Kramnik of Russia in a world championship match sponsored by the Brain Games Network, a British Internet company that focuses on chess.

Garry Kimovich Kasparov was born in Baku, Azerbaijan, when it was part of the Soviet Union. His family name was Weinstein. He took his mother's maiden name after his father's death. Larry Evans

See also **Chess** (picture).

Kassebaum, Nancy Landon (1932-), a Kansas Republican, served in the United States Senate from 1979 to 1997. She was elected in 1978 and reelected in 1984 and 1990. She did not run for reelection in 1996. Kassebaum was the first woman elected to a full term in the Senate who did not succeed her husband in either the Senate or the House of Representatives. Several women had previously been appointed to the Senate to

complete their husbands' terms. Kassebaum never held a federal or state office before she became a senator. In the Senate, she was considered a moderate Republican. In 1996, she and Senator Edward M. Kennedy successfully promoted the Kennedy-Kassebaum bill, which includes a provision that workers can change jobs without losing their medical insurance coverage.


Office of Nancy Landon Kassebaum
Nancy Landon Kassebaum

Kassebaum was born in Topeka, Kansas. She is a daughter of Alfred M. Landon, a former Kansas governor and Republican presidential candidate. He lost the 1936 election to Franklin D. Roosevelt. Kassebaum graduated from the University of Kansas and earned a master's degree at the University of Michigan. In 1956, she married John Philip Kassebaum, an attorney and businessman. They divorced in 1979. In 1996, she married former U.S. Senator Howard H. Baker, Jr. Lee Thornton

Kathmandu, *kaht mahn DOO* (pop. 420,000), also spelled *Katmandu,* is the capital and largest city of Nepal. It lies in a valley in central Nepal amid the Himalayan foothills. For location, see **Nepal** (map). The city is known for its many graceful Hindu and Buddhist temples. Kathmandu's main industry is tourism. Light industry in the city includes brick, carpet, and concrete manufacturing; woodworking; and metalworking. Kathmandu has been inhabited for at least 2,600 years. The first known settlers were the Newars. In 1768, the nearby kingdom of Gorkha conquered Kathmandu and united the region that became the modern kingdom of Nepal. Several ethnic groups live in Kathmandu. Most of the city's people are Hindus, but many are Buddhists. James F. Fisher

Katmai National Park, *KAT my,* is in southwestern Alaska. The park has 10 active and 5 inactive volcanoes. In 1912, one of the volcanoes, Mount Katmai, produced one of the largest volcanic eruptions ever recorded. Mount Katmai's explosion created an ash-filled valley that became known as *The Valley of the Ten Thousand Smokes.* Katmai has a great variety of wildlife, including Alaskan brown bears, bald eagles, moose, sea otters, and sockeye salmon. Katmai was established as a national monument in 1918 and became a national park in 1980. For its area, see **National Park System** (table: National parks). Critically reviewed by the National Park Service

Katydid, *KAY tih dihd,* is a large green or brown insect with long *antennae* (feelers). It is a type of long-horned grasshopper. Its name comes from the love call of the male of a certain species in the eastern United States. Katydids rub the bases of their front wings together to make their sounds. Little filelike ridges on the wings form a sort of scraper. Many katydids begin their song at twilight and sing all night. Katydids are heard most often during the late summer and the autumn.

Most katydids are about 2 inches (5 centimeters) long. They have large wings that fold over their back. In some species, the threadlike antennae are longer than the body. Many katydids are shaped like leaves, and the veins in their wings look like the veins of leaves.

Most katydids live in trees and bushes, and feed on leaves and young twigs. Other katydids eat decaying vegetation and dead insects. A few katydids will capture and eat other insects. Katydids lay their flat, oval, slate-gray eggs from early fall until frost appears. Many of them lay their eggs in double, overlapping rows on the edges of leaves and on twigs. The eggs hatch the next spring. Young katydids are long-legged. They look like adult katydids but have no wings. Betty Lane Faber

Scientific classification. Katydids belong to the family Tettigoniidae.

See also **Grasshopper; Insect** (picture: Familiar insects of North America); **Mormon cricket.**

Katyn Massacre, *KAH tihn,* was a mass murder of more than 4,000 Polish army officers by the Soviet Union during World War II (1939-1945). The killings occurred in 1940 at Katyn, a village near the city of Smolensk in what was then the Soviet Union. For nearly 50 years, the Soviet government denied responsibility for the massacre.

Nazi Germany and the Soviet Union invaded Poland in 1939. Both sides imprisoned tens of thousands of Polish soldiers and executed many of them. In 1941, Germany invaded the Soviet Union. In 1943, the Germans discovered a mass grave at Katyn filled with the bodies of Polish soldiers. Investigators identified the soldiers as those who were in a Soviet prison camp before the German invasion. Evidence indicated that the Soviets had committed the murders. But the Soviets said the Germans had killed the soldiers after invading the area in 1941.

After the war, Communists took power in Poland, and the Soviet Union gained a strong influence over the Polish government. Polish and Soviet authorities forbade any mention of the Katyn incident. In 1989, the post-Communist Polish government officially blamed the Soviets for the massacre. In 1990, the Soviet government publicly admitted its responsibility for the Katyn murders, as well as for the killing of thousands of other Polish prisoners of war. Brian Porter

Kauffmann, Angelica (1741-1807), was a Swiss-born painter. She specialized in portraits and in scenes from Greek and Roman mythology and history.

Kauffmann was born in Chur, Switzerland. As a young woman she worked in Italy, where she gained a reputation as a portrait painter. In 1766, Lady Wentworth, wife of an English ambassador and one of Kauffmann's clients, persuaded the artist to return with her to England. There Kauffmann became a close friend of the artist Sir Joshua Reynolds. She joined him in his efforts to promote neoclassical painting, which emphasized themes from Greek and Roman culture.

In 1768, Kauffmann became a founding member of the Royal Academy of Arts in London. She worked with architect Robert Adam in decorating house interiors that used Greek and Roman themes and artistic styles. In 1781, Kauffmann returned to Italy. Ann Friedman

Kaufman, *KAWF muhn,* **George S.** (1889-1961), was an American playwright. He wrote more than 40 plays and musical comedies, nearly all of which were collaborations with other authors. Kaufman's best-known works are lively, satirical comedies that often poke fun at big business and government. Kaufman also wrote a number of essays and filmscripts. In addition, he was one of the leading stage directors of his time.

Kaufman's first important collaborator was Marc Connelly. Most of their plays concern ambitious young men who succeed with the help of a young woman. Kaufman wrote *Dulcey* (1921), his first hit comedy, with Connelly. Kaufman and Edna Ferber wrote two popular plays about the theater, *The Royal Family* (1927) and *Stage Door* (1936). Kaufman, Morrie Ryskind, and Ira Gershwin shared the 1932 Pulitzer Prize for drama for their musical comedy *Of Thee I Sing* (1931).

Kaufman's favorite collaborator was Moss Hart. Their plays are full of wisecracks and amusing characters who usually work in show business. Perhaps their best-known play is *You Can't Take It with You* (1936), a comedy about an eccentric but loving family. It won the 1937 Pulitzer Prize for drama. Other comedies by Kaufman and Hart include *Once in a Lifetime* (1930) and *The Man Who Came to Dinner* (1939). George Simon Kaufman was born in Pittsburgh, Pennsylvania. Malcolm Goldstein

Kaunas, *KOW nahs* (pop. 428,745), is the second largest city of Lithuania. Only Vilnius has more people. Kaunas is an industrial, educational, and cultural center. For location, see **Lithuania** (map). Factories in Kaunas produce about a fourth of Lithuania's manufactured goods. The city's chief products include machine tools, paper, and textiles. Kaunas has schools of agriculture, engineering, medicine, and veterinary medicine. Cultural facilities include three theaters and several museums. Several buildings in the city date from the 1400's.

Kaunas was founded in the 1000's. It was a medieval trading center and fortress. Kaunas served as the capital of the independent nation of Lithuania from 1919 to 1939. In 1940, the Soviet government forcibly made Lithuania part of the Soviet Union. In 1991, Lithuania broke away from the Soviet Union and became an independent nation again. V. Stanley Vardys

Kaunda, *kah OON dah,* **Kenneth David** (1924-), served as president of Zambia from 1964 to 1991. In 1964, he led the movement that resulted in Zambia's independence from Britain and was elected president. Kaunda was reelected in 1968. In 1972, Kaunda's political organization, the United National Independence Party (UNIP), became Zambia's only legal political party. Kaunda was reelected in one-party elections in 1973, 1978, 1983, and 1988. Opposition political parties were legalized in 1990. In 1991 and 1996, Kaunda and other UNIP candidates were defeated in multiparty elections.



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Kenneth Kaunda

As president, Kaunda became known for his support of black majority rule in South Africa and in Rhodesia, now called Zimbabwe (see **Zimbabwe** [History]). He also supported construction of a railroad from Zambia through Tanzania to the Indian Ocean. The railroad carries Zambia's products to the sea for export.

Zambia's economy declined greatly during Kaunda's administration. The economy depends heavily on mining, and Kaunda failed to promote policies to increase the importance of other economic activities.

Kaunda was born in Lubwa, Zambia (then Northern Rhodesia). He gave up a teaching career to work for Zambian independence. He was imprisoned in 1955 and 1959 for his political activities. Robert I. Rotberg

See also **Zambia** (History).

Kava, *KAH vuh,* is the name of two shrubs related to the pepper plant. They are also called *ava.* They grow in Australia and the Pacific Islands. Kavas grow as tall as 5 feet (1.5 meters). They have round leaves and small yellowish-cream flowers. The plants are easy to raise in greenhouses. They are grown from cuttings from the stem. The roots yield a juice called *kavaic acid.* The peoples of the South Pacific use the juice to make a fermented drink called *kava, ava,* or *kavakava.* Hugh C. Price

Scientific classification. The kavas are in the pepper family, Piperaceae. The scientific names for the two kinds are *Piper methysticum* and *P. excelsum.*

Kaw Indians. See Kansa Indians.

Kawasaki disease is a serious illness of young children. It can result in heart damage and lead to death. Kawasaki disease occurs worldwide, but most often in Japan. Physicians do not know the cause of the disease, but many researchers suspect that a virus is involved.

The symptoms of Kawasaki disease include prolonged high fever; redness of the eyes; sore throat; red, cracked, and bleeding lips; swollen lymph nodes in the neck; a red rash over the body; and swollen and red hands and feet. After the rash clears, the skin peels, especially on the palms of the hands and soles of the feet.

Kawasaki disease is most dangerous when it affects the heart. About 10 percent of all patients suffer heart damage, but only a very small number of these patients die. Early in the illness, inflammation of the heart muscle can cause the heart to fail. Later, inflammation of the arteries that supply blood to the heart can weaken and scar the artery walls. In rare cases, this condition leads to blood clots and a heart attack.

Most people recover completely from Kawasaki disease. Physicians give aspirin and disease-fighting proteins called *gamma globulins* to reduce the symptoms and the risk of heart damage. Arnold W. Strauss

Kayak, *KY ak,* is a light, narrow boat that has an enclosed deck. The deck has from one to four *cockpits*—openings in which the kayakers sit. Each cockpit holds one person. A kayaker wears a plastic covering, called a



Jeff Foott, Bruce Coleman Ltd.

A kayak is a light, narrow boat. The kayaker sits in an opening, called a cockpit, and uses a paddle that has a blade at each end. A plastic covering keeps the cockpit dry.

sprayskirt, around the waist. The sprayskirt attaches to the sides of the cockpit and keeps water out of it. A kayak paddle has a blade at each end.

The two most common types of kayaks are *whitewater kayaks* and *touring kayaks.* Whitewater kayaks are 11 to 13 feet (3.4 to 4 meters) long and are built for quick maneuvering on river rapids. Touring kayaks, also called *sea kayaks,* are used to paddle along the coasts of oceans and large lakes. They are 13 to 20 feet (4 to 6 meters) long and are built to handle ocean waves.

Most kayaks measure from 20 to 35 inches (51 to 89 centimeters) wide and weigh between 25 and 75 pounds (11.3 to 34 kilograms). Most are made of a type of plastic called polyethylene, or of fiberglass. Others, called *folding kayaks,* are made of a rubberized fabric that covers a collapsible frame.

Inuit (sometimes called Eskimos) built the first kayaks thousands of years ago and used them for fishing and hunting. These early kayaks consisted of caribou skins or sealskins stretched over a wooden frame (see **Inuit** [Transportation]). Today, most kayaks are used for recreation or for racing, including events in the Summer Olympic Games. Barton Parrott

Kaye, Danny (1913-1987), a comedian, became noted for his lively pantomimes and his command of ingenious songs. He was born David Daniel Kominski in the Brooklyn section of New York City. Kaye made his stage debut in *The Straw Hat Revue* in 1939. His first stage hit was in 1940 in *Lady in the Dark.* Kaye made his motion-picture debut in *Up in Arms* in 1944. He played in *The Secret Life of Walter Mitty* (1947) and *Hans Christian Andersen* (1952). Kaye toured the world for the United Nations Children's Fund in 1956. He starred in a TV show from 1963 to 1967. Gerald Bordman

Kaye, Nora (1920-1987), was an American ballerina. She became known for her interpretations of highly dramatic roles in such modern works as *The Cage, Dark Elegies, Fall River Legend, Lilac Garden,* and *Pillar of Fire.* Kaye also won praise for her dancing in classics of the 1800's, including *Giselle* and *Swan Lake.*

Kaye was born in New York City. Her real name was Nura Koreva. She danced with the Ballet Theatre (now American Ballet Theatre) from 1940 to 1951, when she joined the New York City Ballet. She returned to the Ballet Theatre in 1954. Kaye retired from dancing in 1960. For many years, she assisted her husband, Herbert Ross, a choreographer and director of musical comedies and motion pictures. In 1980, Kaye became associate director of the American Ballet Theatre. Joan Brock Pikula

Kazakhstan, *kah zahk STAHN,* is a country that lies mostly in west-central Asia. A small part of Kazakhstan lies west of the Ural River on the European continent. The country's name in Kazakh, the official language, is Qazaqstan Respūblikasy (Republic of Kazakhstan). The country's name is also spelled *Kazakstan.*

Most of the people are Kazakhs or Russians. Astana is the country's capital, and Almaty is its largest city.

For hundreds of years, the Kazakh people were herders who raised their livestock on the region's plains. They relied on their herds of sheep, camels, cattle, and horses for food, clothing, and transportation. This lifestyle began to change in the 1800's, when the Russian Empire conquered the Kazakh region. Many Russians settled in the area, greatly reducing the grazing lands.

Kazakhstan became part of the Soviet Union in 1922, when the Soviet Union was formed under Russia's leadership. During most of the 1900's, while Kazakhstan was under Soviet rule, industry grew steadily. Meanwhile, most of the Kazakh people ended their nomadic ways and settled in rural villages or cities. In 1991, Kazakhstan declared its independence from the Soviet Union.

Government. Kazakhstan has a parliamentary government with a strong president. The president serves as head of state and is the most powerful government official. The president is elected by the people to a seven-year term. The president appoints a prime minister to head the government and a cabinet. The parliament consists of an upper house called the Senate and a lower house called the Mazhilis. The Senate has 39 members, and the Mazhilis has 77 members. All citizens 18 years old or older may vote.

Kazakhstan is divided into 17 *oblasts* (provinces) for purposes of local government. The president appoints a governor to administer each oblast.

The Communist Party was the country's only political party until 1990. After 1990, other political parties were allowed to form. In 1991, the Communist Party was renamed the Socialist Party of Kazakhstan. In addition to the Socialists, important parties include a new Communist Party of Kazakhstan, the Democratic Party of Kazakhstan, People's Congress, People's Cooperative Party, People's Unity of Kazakhstan, and Republican Party of Kazakhstan. The president does not belong to a political party.

Kazakhstan's highest court is the Supreme Court. Its judges are elected by the parliament to 10-year terms. The country's other courts include regional courts and local courts.

Kazakhstan has two types of military units. The main unit, the Kazakh armed forces, has about 44,000 troops. There is also a small Kazakhstan National Guard.

People. Kazakhs make up about 42 percent of the population, and Russians account for about 37 percent. Germans and Ukrainians each make up about 5 percent of the population. Other ethnic groups in Kazakhstan include Belarusians, Tatars, Uygurs, and Uzbeks. A majority of Kazakhstan's people, including the Kazakhs, Tatars, Uygurs, and Uzbeks, are Muslims. Most Russians and Belarusians are Orthodox Christians.

Facts in brief

Capital: Astana.
Official language: Kazakh.
Area: 1,049,156 mi^2 (2,717,300 km^2). *Greatest distances*—north-south, 1,000 mi (1,600 km); east-west, 1,800 mi (2,900 km).
Elevation: *Highest*—Mount Tengri, 20,991 ft (6,398 m) above sea level. *Lowest*—Karagiye Depression, 433 ft (132 m) below sea level.
Population: *Estimated 2002 population*—16,191,000; density, 15 per mi^2 (6 per km^2); distribution, 56 percent urban, 44 percent rural. *1989 census*—16,536,511.
Chief products: *Agriculture*—grain, meat, wool. *Manufacturing*—chemicals, food products, heavy machinery. *Mining*—coal, copper, lead, natural gas, petroleum.
Flag: The flag is blue, with a yellow sun and eagle in the center and a yellow stripe of national ornamentation at the left. See **Flag** (picture: Flags of Asia and the Pacific).
Money: *Basic unit*—tenge. One hundred tiyn equal one tenge.

Most of the urban people of Kazakhstan live in modern apartments or houses. In the rural villages, most people live in houses. But some Kazakh shepherds still live in traditional tentlike dwellings from their nomadic past. Called *yurts,* these portable homes are made of a circular wooden frame covered with felt. Most of Kazakhstan's rural villages do not have running water.

The social life of the Kazakh people is centered around the family. Kazakh men and their children generally remain a part of their parents' households. Married women become part of the household of their husband's family. Many women work outside the home as teachers, doctors, and agricultural workers.

The Kazakh people wear both Western-style and traditional clothing. Women generally wear colorful handmade dresses. Most Kazakh men wear Western-style clothing, and some wear traditional felt hats.

Common Kazakh foods include meat dishes and milk products, such as cheese and curds. *Besh barmak,* thinly sliced meat and noodles boiled in broth, is a popular dish. *Kumiss,* made from fermented mare's milk, is a traditional drink. Tea is served at every meal.

The Kazakh people enjoy folk songs and legends, and they recite them for many occasions. At some events, Kazakhs participate in a singing competition called an *aitys.* The recitation of *epics* (poems about heroic events) is another important part of Kazakh culture.

Most of Kazakhstan's Russian people are urban dwellers. The Russian population has maintained its own culture. Performances of Russian ballet, theater, and music take place in all the major cities.

Popular sports in Kazakhstan include volleyball, skating, and wrestling. *Kokpar* is a traditional Kazakh game in which dozens of skilled horsemen try to carry the carcass of a goat or sheep across a goal.

Kazakh is the country's official language. Many Kazakhs speak Russian, however, especially urban people. Russian was the official language under Soviet rule. Under the 1995 Constitution, Russian is used on an equal basis with Kazakh in government documents.

Nearly all of Kazakhstan's people can read and write. The government requires children to attend school from the ages of 6 to 17. The schools use either Kazakh or Russian as the language of instruction. Kazakhstan has about 55 schools of higher learning, including Kazakh State University and Qaraghandy State University. The Kazakh Academy of Sciences includes over 30 separate research institutes.

Land and climate. Kazakhstan's landscape varies greatly from west to east. In the west, the dry plains of the Caspian lowland border the Caspian Sea. The Karagiye Depression, the country's lowest point, lies near the Caspian Sea at 433 feet (132 meters) below sea level. Dry lowlands extend over much of the western part of the country and around the Aral Sea on the southwest border.

High, grassy plains called *steppes* cover large areas of northern Kazakhstan. Sandy deserts extend over much of the south. Northeastern Kazakhstan consists of flat, highly elevated lands that are suitable for farming.

A series of mountain ranges, including the Tian Shan and the Altai Mountains, forms Kazakhstan's eastern and southeastern borders. Mount Tengri, the highest point, rises 20,991 feet (6,398 meters) in the southeast. Several



Republic Square in Astana, Kazakhstan's capital, is the site of the House of Government, *left,* and the parliament building, *right.* Astana became the nation's capital in 1997.

mountain rivers in the east feed into Lake Balkhash, the largest lake entirely within Kazakhstan. Major rivers include the Ile, the Irtysh, the Syr Darya, and the Ural.

Kazakhstan has bitterly cold winters and long, hot summers. It receives little rainfall. January temperatures average about 0 °F (−18 °C) in the north and about 23 °F (−5 °C) in the south. July temperatures average about 68 °F (20 °C) in the north and about 81 °F (27 °C) in the south. Average annual rainfall totals only 4 to 16 inches (10 to 40 centimeters). Mountainous regions are colder, and receive more rainfall, than the rest of the country.

Animal life in Kazakhstan varies between the steppes and the desert. Larks, eagles, marmots, tortoises, and squirrels live in the steppes. Gazelles and a variety of rodents and reptiles inhabit the desert. Snow leopards and lynxes live in the mountains.

Economy. Agriculture accounts for about two-fifths of the value of Kazakhstan's economic production. Farmers raise sheep and cattle throughout Kazakhstan. Chief livestock products are dairy goods, leather, meat, and wool. The country's major crops include barley, cotton, rice, and wheat. In the last half of the 1900's, Kazakhstan's crop production increased sharply due to expansion of agricultural lands and the irrigation of dry lands.

Industry accounts for about one-third of the value of the country's economic production. Kazakhstan's industries include food processing, mining, and the manufacture of chemicals, textiles, and heavy machinery. Almaty, Pavlodar, Qaraghandy, and Shymkent rank among the chief industrial centers. Russia and Ukraine are Kazakhstan's most important trading partners.

The Baykonur Cosmodrome, the former Soviet Union's main space-launch facility, is near the city of Leninsk. Russia uses the facility under a lease agreement with Kazakhstan.

The mines of the Kazakhstan region yield many valuable minerals, including bauxite, borax, chromium, gold, iron, lead, nickel, phosphate, silver, tin, tungsten, uranium, and zinc. Coal is mined in central, eastern, and

northeastern Kazakhstan. Petroleum and natural gas come from fields near the Caspian Sea. Copper mines operate in central, northern, and eastern Kazakhstan.

Several rail lines connect Kazakhstan's cities to urban areas in Russia, China, and other neighboring countries. Kazakhstan has a limited system of roads. Buses and trains are the most common forms of transportation. Airlines link cities within Kazakhstan, and several airports handle international flights.

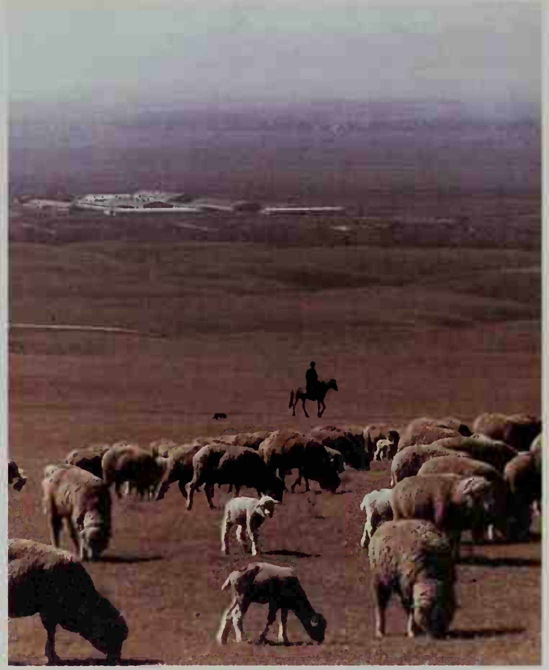
Newspapers are published in several languages, including Kazakh and Russian. A few cities have radio broadcasting stations. The national television station broadcasts from both Almaty and Astana.

History. Nomadic people lived in what is now the country of Kazakhstan before the birth of Jesus Christ. Turkish tribes began to settle in the region in the A.D. 700's. During the 1200's, Mongols from the east invaded the area and defeated the Turkish people. Many of the country's people are descended from the Turkish and Mongol tribes.

During the early 1700's, Russians began migrating to the Kazakh region. In 1731, after suffering attacks from neighboring peoples, the Kazakhs accepted Russian rule for protection. By the mid-1800's, the Russians had set up forts throughout the Kazakh region. The Russian government took control of vast areas of land and encouraged Russian and Ukrainian peasants to settle in the northern parts of the region. Such efforts greatly reduced Kazakh grazing lands.

A nationalist movement seeking independence from Russia emerged in Kazakhstan following the Russian Revolution of 1917. Kazakh nationalists set up a central government and sent troops to fight against the Bolsheviks, Communists who had seized power in Russia during the Russian Revolution. By late 1919, however, the Kazakh nationalists had sided with the Bolsheviks.

In 1920, the Communists set up Kazakhstan as an *autonomous* (self-governing) republic. Because Europeans called the Kazakhs *Kyrgyz,* the republic was called the Kyrgyz Autonomous Soviet Socialist Republic. The present-day Kyrgyz were referred to as the *Kara Kyrgyz.* The Kazakh republic was renamed the Kazakh Autonomous Soviet Socialist Republic in 1925. The Soviet Union had been formed in 1922 under Russia's leadership. Kazakh-

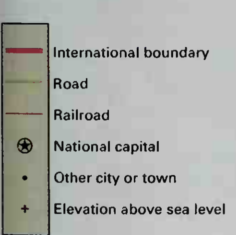


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Northern Kazakhstan includes grassy plains called *steppes.* A herd of sheep grazes on the steppes, shown here. Livestock farming is a major economic activity in Kazakhstan.

Kazakhstan







WORLD BOOK maps

stan became a union republic of the Soviet Union in 1936. It was called the Kazakh Soviet Socialist Republic.

Soviet rule changed many aspects of life. The Soviet Union established a powerful Communist central government in Moscow and took control of all industry and land in Kazakhstan and the other republics. The Communist Party became the only legal political party. Soviet law forbade certain traditional cultural practices, such as religious instruction. But the Soviet government helped develop agriculture and industry. School and health care systems were improved.

During World War II (1939-1945), the Soviet government forced many people from the western part of the Soviet Union to move to Kazakhstan. These people included Germans, Tatars, and Ukrainians.

During the 1950's, the Soviet government launched a program to expand the use of Kazakhstan's vast steppes for agriculture. Much of the land was planted with grain. This program, called the Virgin Lands project, brought thousands of people from other parts of the Soviet Union to Kazakhstan.

During the 1980's, the Soviet government, under Mikhail S. Gorbachev, made reforms toward giving people more freedom. In 1990, Kazakhstan declared that its laws took precedence over those of the Soviet Union. In December 1991, Nursultan Nazarbayev became the first democratically elected president in Kazakh history. On December 16, Kazakhstan declared its independence, just nine days before the Soviet Union broke apart. Kazakhstan joined other Soviet republics in a loose association called the Commonwealth of Independent States.

As an independent country, Kazakhstan replaced its Communist government system with a system based on democratic principles. But in early 1995, President Nazarbayev disbanded the parliament. In an April referendum, voters extended Nazarbayev's term to 2000. In an August referendum, they approved a new constitution. Members of a new two-house parliament were elected in December 1995.

In 1997, Kazakhstan moved its capital from Almaty to the city of Akmola, now called Astana. In 1999, in an election that Nazarbayev called earlier than expected, voters reelected him as president. Larry V. Clark

Related articles in *World Book* include:

Almaty	Commonwealth of Independent States
Aral Sea	Kyzylkum
Caspian Sea	Nazarbayev, Nursultan

Kazan, *kuh ZAN* (pop. 1,091,500), is the capital of Russia's republic of Tatarstan. The city lies on the Volga River in western Russia (see **Russia** [political map]). Kazan is a manufacturing and commercial city. It is a center of culture for the Tatars, who founded Kazan in the 1400's. Ivan the Terrible, czar of Russia, captured the city in 1552. See also **Tatars.** Zvi Gitelman

Kazan, *kuh ZAN,* **Elia,** *EEL yuh* (1909-), became one of America's best-known stage and screen directors. He is regarded as Broadway's leading director of the late 1940's and the 1950's. Kazan won Academy Awards for his direction of the motion pictures *Gentleman's Agreement* (1947) and *On the Waterfront* (1954).

Kazan was born Sept. 7, 1909, in Constantinople (now Istanbul), Turkey, to parents of Greek descent. In 1913, Kazan came to the United States. He worked as an actor before turning to stage directing in the 1930's. Kazan directed such major hits as *The Skin of Our Teeth* (1942), *A Streetcar Named Desire* (1947), *Death of a Salesman* (1949), and *Sweet Bird of Youth* (1959). His first feature film as a director was *A Tree Grows in Brooklyn* (1945). Kazan's other films include *Boomerang* (1947), *A Streetcar Named Desire* (1951), *Viva Zapata!* (1952), *East of Eden* (1955), and *Baby Doll* (1956). He also has written novels and an autobiography, *A Life* (1988). Gerald Bordman

Kazantzakis, *KAZ uhn ZAK ihs,* **Nikos,** *NEE kows* (1883-1957), was a Greek author. He began his literary career writing tragedies, after which he turned to poetry. Kazantzakis first stated his philosophical themes in the essay *The Saviors of God: Spiritual Exercises* (1927). In 1938, he finished what he believed was his masterpiece, *The Odyssey: A Modern Sequel,* an epic poem of 33,333 lines. The poem is based on the ancient Greek epic poem the *Odyssey.*

Later in his career, Kazantzakis turned to prose fiction and wrote several novels. The three for which he is best known are *Zorba the Greek* (1946), *The Greek Passion* (1954), and *The Last Temptation of Christ* (1955). He died on Oct. 26, 1957. His autobiography, *Report to Greco,* was published in 1961, after his death.

Kazantzakis was born on Dec. 2, 1883, in Iraklion, Crete. He traveled widely from about 1920 to 1940 and wrote several travel books. Kazantzakis was strongly influenced by the French philosopher Henri Bergson, and the German philosopher Friedrich Nietzsche, whose works he translated. Kostas Myrsiades

Kea, *KAY uh* or *KEE uh,* is a parrot that lives in New Zealand. It is also called the *mountain nestor.* Its colors are dull olive-green with red under the wings. The kea spends its summers in the mountains and its winters in the lowlands. It feeds on insects, fruits, and the carcasses of sheep and deer. Around human settlements, it may eat almost anything and become quite bold and tame in its search for food. It often walks on the ground. John W. Fitzpatrick

Scientific classification. The kea is in the family Psittacidae. Its scientific name is *Nestor notabilis.*

See also **Parrot.**



WORLD BOOK illustration by John Rignall, Linden Artists Ltd

The kea of New Zealand has a powerful, hooked bill.

Kean, Edmund (1787-1833), was considered the greatest and most influential English actor of his time. He was the first important performer to reject the polite, restrained style of acting popular in the early 1800's. He introduced a more romantic and exuberant style that became the ideal for most of the 1800's.

Kean first gained fame for his emotional acting style as Shylock in William Shakespeare's *The Merchant of Venice* in 1814. He became known for his portrayal of such tragic Shakespearean characters as Hamlet, Iago, Othello, and especially Richard III. The English poet and critic Samuel Taylor Coleridge wrote that watching Kean act was like reading Shakespeare by "flashes of lightning." Kean was born in London, probably on Nov. 4, 1787. He died on May 15, 1833. Stanley L. Glenn

Kearny, *KAHR nee,* **Philip** (1814-1862), was a Union general in the American Civil War (1861-1865). At the outbreak of the war, he became a brigadier general of New Jersey volunteers. He served in the Eastern theater and rose to major general and division commander. He was killed on Sept. 1, 1862, during the Battle of Chantilly, in Virginia.

Kearny was born into a wealthy family on June 1, 1814, in New York City. In 1833, he graduated from Columbia College (now Columbia University). He secured a commission in the army in 1837. Kearny also served in the Mexican War (1846-1848). He lost an arm at Churubusco and won promotion to the rank of major for his bravery.

In 1851, Kearny resigned to settle near Newark, New Jersey. He joined the French Army in 1859 and fought in the war against Austria, winning the cross of the Legion of Honor. New Jersey placed his statue in the United States Capitol in 1888. Kearny was a nephew of Stephen Kearny, who commanded the western armies of the United States in the Mexican War. John F. Marszalek

Kearny, *KAHR nee,* **Stephen Watts** (1794-1848), an American general, commanded the western armies of the United States in the Mexican War (1846-1848). He also helped open the American West to settlement.

Kearny was born on Aug. 30, 1794, in Newark, New Jersey. He attended Columbia College (now University) for one year but left to join the army in the War of 1812. In 1825, he joined an expedition to the Yellowstone River, and after 1828 commanded several frontier posts.

During the Mexican War, Kearny led the armies that conquered New Mexico and California. In 1847, Kearny and U.S. Navy Commodore Robert Stockton received conflicting orders concerning their authority in California. Stockton appointed John C. Frémont civil governor of California. But later orders from Washington gave Kearny control of the civil government. The conflicting orders led to a dispute between Kearny and Frémont, and Frémont was court-martialed for insubordination. Late in 1847, Kearny was ordered into Mexico. He served as governor of Veracruz and Mexico City for a few months before his death on Oct. 31, 1848. Dan L. Flores

See also Mexican War (The occupation).

Keaton, Buster (1895-1966), was an American motion-picture actor. He ranked among the most popular silent film comedians, along with Charlie Chaplin and Harold Lloyd. Keaton created a character, sometimes called "The Great Stone Face," who rarely smiled but overcame obstacles through a naive determination and mechanical ingenuity. Keaton's major silent films include *Sherlock, Jr.* (1924), *The Navigator* (1924), and *The General* (1927). With the arrival of talking pictures, Keaton's career declined. But he reappeared in motion pictures, as well as on television, shortly before his death.



The Museum of Modern Art, Film Stills Archive

Buster Keaton played an unsmiling character who always won out despite great odds. One of his greatest silent film comedies was *The General* (1927), set in a background of the Civil War.

Joseph Frank Keaton was born on Oct. 4, 1895, in Piqua, Kansas. He became part of his parents' vaudeville act before he was 4 years old. He entered filmmaking in 1917 after a successful stage career. Robert Sklar

Keats, *keets,* **John** (1795-1821), was an English poet of the Romantic period. Keats's poetry is concerned, in various ways, with joy in the beauty of this world, sorrow over its inevitable passing, and attempts to find bridges between the perishable world we know and the eternal world we imagine. His verse employs unusually rich and vivid images to express his intense feelings.

His life. Keats was born in London on Oct. 31, 1795, the son of a livery stable keeper. He attended the Clarke school in Enfield, outside London, and his interest in literature was first aroused there. Keats later studied medicine and passed his medical examinations, but he never practiced because he had decided to become a poet. He dedicated his first volume, *Poems* (1817), to his friend Leigh Hunt. Hunt was a journalist, essayist, and poet who held liberal political views. In 1818, Keats finished his second volume of poetry, *Endymion,* a long mythological story in verse. The reviewers for the powerful Tory journals, always eager to attack Hunt or his friends, ridiculed *Endymion.* The reviewers sneeringly assigned Keats to what they called the "Cockney School of Poetry."

The reviews ruined Keats's reputation. Adding to Keats's disappointment in 1818 were his brother's death from tuberculosis and Keats's premonition that he himself would suffer the same fate. He began to develop a growing feeling that poverty and disease would prevent his marrying Fanny Brawne, whom he deeply loved. Yet from the fall of 1818 through the fall of 1819, he experienced an intense burst of creativity, and his final and best volume was published in 1820. But Keats had developed tuberculosis. He traveled to Italy, hoping a warmer climate might improve his health. He died in Rome on Feb. 23, 1821, and was buried there.

His work. Keats's early poetry was uneven. It showed the influence of Edmund Spenser and William Shake-

speare, but it lacked the consistency these poets displayed. In his 1817 volume, perhaps the only poem of mature stature was the sonnet of excited literary discovery "On First Looking into Chapman's Homer."

In *Endymion,* Keats retold the classic story of the shepherd who loved and won the goddess of the moon. Some people think that Keats simply let his imagination run wild, without a clear plan, in this 4,000-line poem. Others see in the poem a symbolic story concerned, like much of Keats's early poetry, with showing how appreciation of the beauty of nature can lead to the understanding of eternal truth. *Endymion* opens with the famous line "A thing of beauty is a joy forever."

In the poetry of his final volume, Keats achieved the rich beauty and superb control of image, story, and language that has earned him lasting fame. "The Eve of St. Agnes" uses brilliant contrasts to tell a Romeo and Juliet-like tale of dangerous young love. The poem explores Keats's favorite theme of the relationship between dreams and the everyday world. "Lamia" shows a young man entranced by love for a beautiful serpent-woman and raises questions about the nature of reality. The unfinished "Hyperion" shows the influence of the English poet John Milton. The style of its companion fragment, "The Fall of Hyperion," was also somewhat influenced by that of the Italian poet Dante. Together, they deal on a grand scale with the wars of the ancient gods and the principle of power in the universe. The great odes "On a Grecian Urn," "To a Nightingale," "On Melancholy," and "To Autumn" present various aspects of the soul's eternal longing in a world ruled by time. Critics still disagree about what Keats meant at the end of the Grecian urn ode, where he interprets the message of the urn to be "Beauty is truth, truth beauty."

Most of the poems written during Keats's brief maturity display what he called "negative capability." They explore many possibilities but do not insist upon any one answer to the enduring problems of life. The intense experience of life, and not its perfect understanding, was Keats's main poetic concern. Frederick W. Shilstone

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Keck Observatory is an astronomical observatory on Mauna Kea, a mountain on the island of Hawaii. The observatory consists of two identical telescopes, Keck I and Keck II, which are the largest optical telescopes in the world. Keck I was completed in 1992; Keck II, in 1996. The California Association for Research in Astronomy, a partnership of the University of California and the California Institute of Technology, operates the observatory. The facility's full name is the W. M. Keck Observatory.

Keck I and II collect and focus visible light waves and *infrared* (heat) waves from objects in space. One use of the telescopes is to analyze radiation coming to Earth from the farthest known galaxies. Astronomers can use the information gathered to determine a galaxy's distance, size, age, and other characteristics.

Keck I and II are *reflecting telescopes*—that is, they use a large mirror to collect and focus light. The light-gathering mirror is a *segmented mirror* that consists of 36 smaller mirrors mounted together. The segments form a reflecting surface 33 feet (10 meters) in diameter.

An electronic sensing system holds the segments in place. If a segment gets out of position, sensors on its edges activate pistons in the support structure that move the segment. Sandra M. Faber

See also **Telescope** (picture: The Keck I Telescope).

Keeshond, *KAYS hahnd* or *KEES hahnd,* is a Dutch dog of Arctic descent, related to the Samoyed, chow chow, and Pomeranian. It is the national dog of the Netherlands. Keeshonden are a familiar sight on Rhine River boats. The dog has long, thick, gray hair tipped with black. Its slanting eyes are marked with lines that look like spectacles. The head is wedge-shaped, and the tail curls tightly. Keeshonden stand 17 to 18 inches (43 to 46 centimeters) high and weigh 35 to 40 pounds (16 to 18 kilograms). See also **Dog** (picture: Nonsporting dogs).

Critically reviewed by the American Kennel Club

Kefauver, *KEE faw vuhr,* **Estes,** *EHS tihs* (1903-1963), a United States congressman from Tennessee, won fame in 1950 as head of a U.S. Senate committee investigating organized crime. He was the Democratic candidate for vice president in 1956. He and presidential candidate Adlai E. Stevenson lost to President Dwight D. Eisenhower and Vice President Richard M. Nixon.

Kefauver was born on July 26, 1903, in Madisonville, Tennessee. He studied at the University of Tennessee and Yale University. He practiced law, and he won a seat in the U.S. House of Representatives in 1939. He served in the House until he was elected to the Senate in 1948. He was reelected in 1954 and 1960. Kefauver died on Aug. 10, 1963. James I. Lengle

See also **Tennessee** (picture).

Keillor, *KEE luhr,* **Garrison** (1942-), is a popular American radio host, humorist, and writer. He first gained fame as the host and head writer for the popular weekly radio show "A Prairie Home Companion," which began in 1974. This highly praised program presents comedy as well as music that ranges from yodeling to opera. The highlight of each show is Keillor's humorous monologue about a fictitious town called Lake Wobegon, Minnesota.

In 1987, Keillor left his radio show. By 1989, he had started another variety show on radio, "Garrison Keillor's American Radio Company of the Air." His program returned to the name "A Prairie Home Companion" in 1993.

Keillor's books include *Happy to Be Here: Stories and Comic Pieces* (1982), *Lake Wobegon Days* (1985), *Leaving Home* (1987), *WLT: A Radio Romance* (1991), *The Book of Guys* (1993), *Wobegon Boy* (1997), and *Lake Wobegon Summer 1956* (2001).

Keillor also contributes articles and stories to such magazines as *Harper's* and *The New Yorker.* Keillor, whose real name was Gary Edward Keillor, was born on Aug. 7, 1942, in Anoka, Minnesota. Wilma J. Kahn

Keller, Gottfried, *GAWT freed* (1819-1890), was the most famous Swiss author who wrote in German before the 1900's. He is noted for his humor and a concern for the ethics of good citizenship. Keller wrote several cycles of shorter prose works called novellas. His best-known novellas appear in two series of *The People of Seldwyla* (1856, 1874). They are the comic "Clothes Make the Man" and the tragic "Romeo and Juliet in the Village." Other important series include *Seven Legends* (1872), humorously modernized versions of popular religious tales; the historical *Zurich Novellas* (1878); and *The Epi-*

gram (1882), a collection of ironic love stories.

Keller was born on July 19, 1819, in Zurich. He failed as a student of painting in Munich and lived in poverty and isolation in Germany for several years. His first major narrative work was the autobiographical novel *Green Henry* (1854, rewritten 1879-1880). He also wrote poetry, much of which he regarded as a service to Switzerland, and so he refused to be paid for it. Jeffrey L. Sammons

Keller, Helen Adams (1880-1968), is an outstanding example of a person who conquered physical disabilities. A serious illness, which her doctor called "acute congestion of the stomach and brain," destroyed her sight and hearing at the age of about 1 $\frac{1}{2}$. As a result, she could not speak and was totally shut off from the world. But she rose above her disabilities to gain international fame and to help disabled people live fuller lives.

For almost five years, she grew up, as she later said, "wild and unruly, giggling and chuckling to express pleasure; kicking, scratching, uttering the choked screams of the deaf-mute to indicate the opposite." Then Helen's father took her to Alexander Graham Bell. He advised Keller to write to the Perkins Institution for the Blind in Boston (now Perkins School for the Blind in Watertown, Massachusetts). Shortly before the child was 7, Anne Sullivan arrived from Boston to teach her. Sullivan had been nearly blind during childhood, but surgery in 1881 and 1887 partially restored her sight. She later married John A. Macy, but she remained with Helen Keller until her death. Then Mary Agnes "Polly" Thomson, who had been Keller's secretary, took Sullivan's place.

She learns to write. Sullivan was able to make contact with the girl's mind through the sense of touch. She used a manual alphabet by which she spelled out words on Helen's hand. Gradually, the child was able to connect words with objects. Once she understood, her progress was rapid. Within three years, she knew the alphabet and could read and write in braille.

She learns to speak. Until she was 10 years old, Keller could talk only with the sign language of the deaf-mute. She decided she would learn to speak and took lessons from a teacher of the deaf. By the time she was 16, she could communicate well enough to go to preparatory school and to college. She chose Radcliffe, from which she graduated in 1904 with honors. Sullivan stayed with her through these years, interpreting lectures and class discussions for her.

She helps others. After college, Keller became concerned with the conditions of the blind and the deaf-blind. She became active on the staffs of the American Foundation for the Blind and of the American Foundation for Overseas Blind. She appeared before legislatures, gave lectures, and wrote many books and articles. She started the Helen Keller Endowment Fund and asked for funds from wealthy people.

Keller became especially interested in bettering conditions for the blind in developing and war-ravaged nations. An enthusiastic and untiring traveler, she lectured in their behalf in over 25 nations throughout the world. During World War II (1939-1945), Keller worked with soldiers who had been blinded in the war. Wherever she appeared, she brought new courage to blind people.

Keller received many awards of great distinction. They included the Chevalier's ribbon of the French Legion of Honor, the Alumni Achievement Award of Radcliffe College, and decorations from many governments.



Bettmann Archive

Helen Keller, *left,* "listened" to others speak by putting her middle finger on the speaker's nose, forefinger on the lips, and thumb on the larynx. With Anne Sullivan, *center,* she demonstrated the method for the American actor Joseph Jefferson.

Keller's books have been translated into more than 50 languages. They include *The Story of My Life* (1902); *Optimism* (1903); *The World I Live In* (1908); *The Song of the Stone Wall* (1910); *Out of the Dark* (1913); *My Religion* (1929); and *Midstream: My Later Life* (1930). *Teacher* (1955) tells of Sullivan. The motion picture *Helen Keller in Her Story* told the story of Keller's life. The play *The Miracle Worker* (1959) and its movie adaptation (1962) described how Sullivan made contact with Keller through the sense of touch. Helen Keller was born on June 27, 1880, in Tuscumbia, Alabama. She died on June 1, 1968.

Kenneth A. Stuckey

See also **Sullivan, Anne Mansfield; Autograph** (picture).

Additional resources

Lash, Joseph P. *Helen and Teacher.* 1980. Reprint. Am. Foundation for the Blind, 1996. A classic biography.
Markham, Lois. *Helen Keller.* Watts, 1993. Younger readers.
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Kelley, Florence (1859-1932), was an American social reformer. She promoted better working conditions, particularly for women, and child welfare.

In 1892, Kelley studied working conditions in Illinois. Her work led to a state law that limited women's work hours and banned child labor. From 1893 to 1897, she enforced the act as the state's chief factory inspector.

From 1899 to 1932, Kelley served as general secretary of the National Consumers League. This organization identified manufacturers and stores that provided fair working conditions, and urged people to buy their products. During the early 1900's, her speeches and writings helped bring about minimum wage laws in several states. In 1912, Congress established the Children's Bureau, an agency proposed by Kelley and Lillian Wald, who was a pioneer in public health nursing.

Florence Molthrop Kelley was born on Sept. 12, 1859, in Philadelphia. She was a lifelong socialist and a leader in the movement to gain women the right to vote. She

was vice president of the National American Woman Suffrage Association in the early 1900's. Miriam Schneir

See also **Wald, Lillian D.**

Kellogg, Frank Billings (1856-1937), was an American lawyer, diplomat, and statesman. He won the 1929 Nobel Peace Prize for his work in framing the Kellogg-Briand Pact of 1928. In 1930, Kellogg was appointed a judge of the Permanent Court of International Justice.

Kellogg was born on Dec. 22, 1856, in Potsdam, New York. He had little formal education but read law and was admitted to the bar in 1877. He prosecuted business trusts, chiefly the oil, railroad, and paper monopolies.

Kellogg served as a Republican United States senator from Minnesota from 1917 to 1923 and as U.S. ambassador to the United Kingdom in 1924 and 1925. Kellogg was secretary of state from 1925 to 1929. James S. Olson

See also **International Court of Justice; Kellogg-Briand Pact.**

Kellogg, W. K. (1860-1951), was an American cereal manufacturer. He worked for many years for his brother, who ran a *sanitarium* (place for treating the sick) in Battle Creek, Michigan. While he was there, W. K. Kellogg experimented with a new breakfast food called "corn flakes" and recognized its sales potential. In 1906, Kellogg organized a cereal company. He skillfully used advertising to make the company successful.

Will Keith Kellogg was born on April 7, 1860, in Battle Creek. He later made substantial gifts to his birthplace. In 1930, he established the Kellogg Foundation (see **Kellogg Foundation**). He died in Battle Creek on Oct. 6, 1951. William R. Childs

Kellogg-Briand Pact, also called the Pact of Paris, condemned the use of war to solve international problems and called for peaceful settlement of disputes. French Foreign Minister Aristide Briand originally proposed the pact in 1927 as a treaty between France and the United States. Frank B. Kellogg, the U.S. secretary of state, enlarged the plan in 1928 to include all nations. It was signed by 15 nations in Paris on Aug. 27, 1928. By 1934, 64 nations had signed. The signers included all the nations in the world at that time except Argentina, Bolivia, El Salvador, Uruguay, and the tiny countries of Andorra, Liechtenstein, Monaco, and San Marino.

Many nations signed the pact with certain limitations. For example, most reserved the right to wage war in self-defense. Japan claimed this right in the 1930's, when it fought against China without formally declaring war. The pact provided no way to enforce its provisions and could not prevent attacks, such as the one Italy launched against Ethiopia in 1935. Although the pact has been violated many times, it has never officially been canceled.

After World War II (1939-1945), the Allies used the pact against individuals, rather than against nations. The pact became part of the legal basis for the Nuremberg and Tokyo war crimes trials. Robert H. Ferrell

See also **Briand, Aristide; International law** (After World War I).

Kellogg Foundation is a philanthropic organization that administers funds for educational and charitable purposes. It provides start-up money to organizations and institutions for specific projects, mainly in the United States, Latin America, and southern Africa. The foundation's funding priorities include programs that involve youth, higher education, leadership, health services, food systems, rural development, philanthropy and volunteerism, and ground-water resources. In Michigan, it also helps programs contributing to economic development. The foundation does not make loans and does not support research projects or make grants to individuals.

The foundation's full name is the W. K. Kellogg Foundation. The cereal manufacturer W. K. Kellogg established it in 1930 with a $45-million donation. Since that time, the foundation's total expenditures have exceeded $1.6 billion. The headquarters of the Kellogg Foundation are in Battle Creek, Michigan. For the assets of the foundation, see **Foundations** (table).

Critically reviewed by the W. K. Kellogg Foundation

Kelly, Gene (1912-1996), became a popular American dancer, *choreographer* (dance creator), actor, and director. He ranked as one of the finest and most creative dancers in musical motion pictures. Kelly developed a spontaneous, athletic dancing style. His imaginative choreography combined tap dancing with elements of ballet and acrobatics.

Eugene Curran Kelly was born on Aug. 23, 1912, in Pittsburgh, Pennsylvania. He made his Broadway debut in 1938 in *Leave It to Me,* and he gained his first recognition in the title role of the musical *Pal Joey* in 1940.

Kelly made his film debut in *For Me and My Gal* (1942) and appeared in over 30 musicals and dramatic films. He also choreographed or co-choreographed many of his musicals, including *Cover Girl* (1944), *Anchors Aweigh* (1945), *The Pirate* (1948), *On the Town* (1949), *An American in Paris* (1951), and *Singin' in the Rain* (1952). Kelly sang in many of his movies and directed or codirected several dramatic and musical films. Kelly died on Feb. 2, 1996. Gerald Bordman

Kelly, George Edward (1887-1974), an American playwright, became known for realistic, carefully constructed social comedies. His first success was *The Torchbearers* (1922), a broad yet biting satire on pompous amateur theater groups. *The Show-Off* (1924) satirizes the eternal bragging sentimentalist, in the character of Aubrey Piper. Kelly had created Piper in his long-running vaudeville skit *Poor Aubrey.* Kelly received the Pulitzer Prize for *Craig's Wife* (1925), a powerful character study of a cold-hearted woman.

Kelly was born on Jan. 16, 1887, in Philadelphia. He became a vaudeville performer in the early 1900's and wrote dozens of widely performed vaudeville sketches. He turned to film writing in the 1930's after continued cool critical reception of his plays. Kelly died on June 18, 1974. Frank R. Cunningham

Kelly, Grace (1929-1982), Princess Grace of Monaco, was a famous American motion-picture actress before she married Prince Rainier III of Monaco in 1956 (see **Rainier III**). She died on Sept. 14, 1982, after a car accident near Monaco.

Grace Patricia Kelly was born on Nov. 12, 1929, in Philadelphia. She made her motion-picture debut in 1951 in *Fourteen Hours.* Her first starring role was in *High Noon* (1952).

In 1954, she won the Academy Award as best actress for her performance in *The Country Girl.* She made 11 films before retiring to marry Prince Rainier, including *Mogambo* (1953), *The Bridges at Toko-Ri* (1954), *Rear Window* (1954), *Dial M for Murder* (1954), *To Catch a Thief* (1955), and *High Society* (1956). Rachel Gallagher

Kelly, Ned (1854-1880), was the most famous of Australia's *bushrangers*. Bushrangers were bandits who operated in rural Australia from about 1790 to 1900. Through the years, some people have considered Kelly to be a vicious criminal. Others have admired him as a symbol of revolt against authority and injustice.

Kelly was born Edward Kelly in Beveridge, near Melbourne, in what is now the Australian state of Victoria. His family was often in trouble with the police. Kelly was imprisoned twice before he reached the age of 20. In 1877, three years after his second prison term ended, he became involved in horse and cattle theft.

In 1878, a police officer who went to the Kelly house to arrest Ned's brother Dan for horse theft was wounded. The officer said Ned had shot him. But the Kellys said the officer was injured in a scuffle. Ned and Dan Kelly escaped into the thickly forested Wombat Ranges, where two friends, Steve Hart and Joe Byrne, joined them. The police sent two patrols to capture the brothers. But Ned and his companions surprised one of the patrols and killed three police officers in a shootout.

The Kellys, Hart, and Byrne quickly won fame as the Kelly gang. In December 1878, the gang robbed a bank in Euroa in central Victoria. Two months later, they raided Jerilderie, a small town in southern New South Wales. There, they locked up the two local police officers and robbed another bank. Ned Kelly tried unsuccessfully to find the editor of the local newspaper. He wanted the editor to print a document, now known as the Jerilderie Letter, in which he explained his actions and complained of injustice.

In June 1880, the gang took over the township of Glenrowan and held townsfolk captive in an inn. During a 12-hour siege by police, Dan Kelly, Hart, and Byrne were killed. The police captured Ned Kelly, dressed in homemade armor, as he tried to rescue his companions. On November 11, he was hanged. Ian Jones

Kelly, Sharon Pratt (1944-), was the first black woman mayor of a major American city. She served as mayor of Washington, D.C., from 1991 to 1995. Kelly became mayor as Sharon Pratt Dixon. She changed her last name to Kelly in December 1991, when she married James R. Kelly III, an American businessman.


©Trippett, Sipa Press
Sharon Pratt Kelly

A Democrat, Sharon Pratt Kelly replaced Washington Mayor Marion S. Barry, Jr., who near the end of his 12 years in office had been convicted of possessing cocaine. Barry did not run for reelection. Kelly won the election by promising voters that she would "clean house," a reference to Barry's scandalous final term as mayor. Barry served six months in prison. In 1992, he was elected to the city council. In 1994, when Kelly ran for reelection, Barry ran against her and won.

Kelly was born on Jan. 30, 1944, in Washington, D.C. She earned a bachelor's degree from Howard University in 1965 and a law degree from Howard in 1968. She entered private law practice in 1971. From 1972 to 1976, she taught at the Antioch School of Law in Washington, D.C. Kelly represented Washington, D.C., on the Democratic National Committee from 1977 to 1990, serving as committee treasurer from 1985 to 1989. Lee Thornton

Keloid is a mass of scar tissue that occurs at the site of a cut. Keloids may be various shapes and sizes. They usually are raised above the surface of the skin and extend beyond the original skin injury. Keloids result from the overproduction of fibrous connective tissue in the *dermis* (inner layer of skin). They often occur after the skin has been injured by a laceration or by surgery, but they may appear spontaneously. Keloids can be surgically removed, but they frequently reappear weeks or months later. David T. Woodley

Kelp is any of a variety of large, brown to brownish-green seaweeds that grow underwater and on rocky shores. Kelps inhabit cold waters in many parts of the world. They usually do not grow in tropical waters.

Kelps vary widely in size and form. One type of kelp, called *giant kelp,* may have hundreds of branches, each of which has hundreds of leaves. Giant kelp may measure up to 200 feet (60 meters) long. In areas where many giant kelps live together, they form underwater forests. Some species consist of a single branch and grow less than 3 feet (1 meter) long. Kelps have a complex type of life cycle known as *alternation of generations.* They spend part of this life cycle as microscopic organisms. See **Alternation of generations.**

Many marine animals, such as snails and sea urchins, feed on kelps. Other animals, including lobsters and many fish, use kelps for shelter. People in China and Japan grow kelp for food on special farms in the ocean. In the United States and many other countries, kelps are collected from the places where they grow naturally. Harvested kelps yield *algin,* a substance used in the manufacture of ice cream, salad dressing, beer, paper, cosmetics, and many other products. Valrie A. Gerard

Scientific classification. Kelps belong to the order Laminariales. The giant kelp is *Macrocystis pyrifera.*

See also **Iodine; Ocean** (picture: Benthos); **Seaweed.**


© Lewis Trusty, Animals Animals
A giant kelp provides shelter for fish. Giant kelp may grow very large and have hundreds of branches. In some areas, these huge kelps form underwater forests.

Kelvin, Lord (1824-1907), was one of the great British physicists of the 1800's. Kelvin published 661 papers on a wide range of scientific subjects, and he patented 70 inventions. Queen Victoria knighted Kelvin for his work as the electrical engineer in charge of laying the first successful transatlantic cable in 1866.

Kelvin invented the mirror galvanometer used in cable signaling, and the siphon recorder, still used to receive the signals. He invented the first ship's compass that reduced the magnetic influence of iron on the ship. He also invented a mechanical tide predictor.

Kelvin introduced a temperature scale that begins at absolute zero (−273.15 °C, or −459.67 °F). This scale is known as the *Kelvin scale* (see **Absolute zero**).

Kelvin also tried to calculate the age of the earth. However, the discovery of radioactivity showed that his basic assumptions were incorrect.

Kelvin was born on June 26, 1824, in Belfast, Ireland. His given and family name was William Thomson. He was educated at the University of Glasgow and Cambridge University. He became professor of natural philosophy at the University of Glasgow in 1846. In 1892, he received the title of Baron Kelvin of Largs.

Richard G. Olson

Kemal, Mustafa. See Atatürk, Kemal.

Kemble, Fanny (1809-1893), a British author and actress, lived many years in the United States and became known for her strong antislavery beliefs. In her book *Journal of a Residence on a Georgian Plantation* (1863), she recorded observations she had made of Southern plantation life and sharply criticized slavery. The book helped increase opposition to the Southern cause in both the United States and the United Kingdom.

Frances Anne Kemble was born on Nov. 27, 1809, in London. She made her stage debut in 1829 in *Romeo and Juliet.* In 1832, she came to the United States, where she won praise for her stage performances and readings from the works of playwright William Shakespeare. In 1834, Kemble married Pierce Butler, a Georgia plantation owner. The marriage, which ended in divorce, brought her in contact with slavery. In addition, Kemble wrote poetry, plays, essays on Shakespeare, and a novel.

Gabor S. Boritt

Kemp, Jack French (1935-), became an important American political leader after a career as a professional football player. He was the Republican candidate for vice president of the United States in 1996. Kemp and his presidential running mate, Robert Dole, were defeated by their Democratic opponents, President Bill Clinton and Vice President Al Gore.

Kemp was born on July 13, 1935, in Los Angeles. He attended Occidental College in that city. A quarterback, he played on Occidental's varsity football team for three years. He graduated and became a professional player in 1957. Kemp played for several professional teams. However, his best success came with the Buffalo Bills of the American Football League, from 1962 until his retirement in 1969. Kemp helped organize the league's players association, and he served as its president from 1965 to 1970.

Kemp was elected to the United States House of Representatives in 1970 and was reelected eight times. His district covered part of Erie County, New York—including suburbs of Buffalo. In the House, Kemp attracted national attention for coauthoring the Kemp-Roth bill with Senator William V. Roth, Jr., of Delaware. The bill formed the basis of the Economic Recovery Tax Act of 1981, which cut individual income tax rates 25 percent over three years. Kemp helped popularize the term *supply-side economics.* He and other supporters of the supply-side theory believe tax-rate reductions encourage savings and investments and therefore stimulate production and national economic growth.

Kemp was an unsuccessful candidate for the Republican presidential nomination in 1988. From 1989 to 1993, Kemp was secretary of housing and urban development in President George H. W. Bush's Cabinet. As secretary, he promoted *enterprise zones* to try to improve economic conditions in poor urban areas. Businesses in enterprise zones receive tax cuts and freedom from such regulations as zoning laws. In 1993, after leaving the Cabinet, Kemp cofounded Empower America, a center for research and study dedicated to conservative principles and ideas. Guy Halverson

Kempis, Thomas à. See Thomas à Kempis.

Kenai Fjords National Park lies in south-central Alaska. The park is named for *fiords* (long, narrow inlets of the sea) that cut into its coastline on the Gulf of Alaska. The fiords area features forests, deep valleys, rugged cliffs, and many sea animals. The park includes part of the vast Harding Icefield, one of the largest ice fields in the United States (see **Alaska** [political map]). Kenai Fjords was established as a national monument in 1978. It became a national park in 1980. For its area, see **National Park System** (table: National parks).

Critically reviewed by the National Park Service

Kendall, Henry Way (1926-1999), an American physicist, worked with Jerome Friedman of the United States and Richard Taylor of Canada in experiments that proved the existence of subatomic particles called quarks. In the early 1970's, the three scientists fired particles into protons and neutrons, the objects that make up atomic nuclei. They found that each proton and neutron is made up of three quarks. For these discoveries, the three scientists shared the 1990 Nobel Prize for physics.

Kendall was born on Dec. 9, 1926, in Boston. In 1954, he received a Ph.D. degree in physics from the Massachusetts Institute of Technology (MIT).

From 1956 to 1961, Kendall conducted research at Stanford University in California, studying the structure of protons and neutrons by scattering electrons from atomic nuclei. He returned to MIT in 1961 and continued his collaboration with Friedman and Taylor, leading a group at the Stanford Linear Accelerator Center (SLAC).

The quark theory was first proposed in 1964 by two American physicists, Murray Gell-Mann and George Zweig. In 1971, the experiments of Kendall and his colleagues provided the first direct evidence of the existence of quarks. They showed that protons and neutrons are made up of quarks, which have electric charges that are fractions of the charge of the electron and proton. Until then, scientists had believed that protons and neutrons were indivisible.

In 1969, Kendall helped to found the Union of Concerned Scientists (UCS), a group that presses the U.S. government to control technologies that the group considers harmful, such as nuclear power. Kendall became chairman of the UCS in 1974. Alan J. Rocke

Kendrew, Sir John Cowdery (1917-1997), a British molecular biologist, shared the 1962 Nobel Prize for chemistry with fellow British molecular biologist Max Perutz. Through a technique known as X-ray crystallography, the two scientists traced the structure of hemoglobin and myoglobin. These are two proteins found in the blood and muscles of human beings and animals.

Kendrew was born at Oxford, England. He attended Cambridge University. He directed the molecular biology laboratory at Cambridge from 1946 to 1975. Kendrew was knighted in 1974. Alan J. Rocke

Keneally, Thomas (1935-), an Australian writer, wrote *Schindler's Ark*, which won the United Kingdom's Booker Prize and the *Los Angeles Times's* Fiction Prize in 1982. The novel, titled *Schindler's List* in the United States, is based on the true story of a German businessman who saved the lives of more than a thousand Jews in Nazi-occupied Poland.

Thomas Michael Keneally was born and educated in Sydney. He trained for the Roman Catholic priesthood but was not ordained. His first novel, *The Place at Whitton*, was published in 1964. His other notable books include *Bring Larks and Heroes* (1967), a story of colonial times in Australia; *Three Cheers for the Paraclete* (1968), a novel dealing with conflict within the Roman Catholic Church; and *The Chant of Jimmy Blacksmith* (1972), the story of an Aborigine caught between two worlds. Michael Seidel

Kenna, John Edward (1848-1893), was an American statesman. He served as a Democrat from West Virginia in the United States House of Representatives from 1877 to 1883 and in the U.S. Senate from 1883 until his death. Kenna called for government funding to improve river navigation in West Virginia. He also supported legislation to regulate railroads. Kenna was born in St. Albans, West Virginia. He served as prosecuting attorney in Kanawha County in West Virginia. His statue represents West Virginia in the U.S. Capitol in Washington, D.C. Edward A. Lukes-Lukaszewski

Kennan, George Frost (1904-), an American diplomat, is credited with developing the U.S. policy to prevent Soviet expansion after World War II. This policy became known as the *containment policy*. Two of his books received both the Pulitzer Prize and the National Book Award—*Russia Leaves the War* (1956) and *Memoirs, 1925-1950* (1967). He also wrote *American Diplomacy: 1900-1950* (1951) and *Russia and the West Under Lenin and Stalin* (1961). Kennan was a major architect of the Marshall Plan for post-World War II reconstruction of Europe (see **Marshall Plan**). As ambassador to the Soviet Union in 1952, Kennan protested being restricted to Moscow. The Soviets demanded his dismissal.

Kennan was born in Milwaukee. He served on the U.S. Department of State policy-planning staff in 1947. Kennan became a professor at the Institute for Advanced Study in Princeton, New Jersey, in 1956. He was ambassador to Yugoslavia from 1961 to 1963. Michael P. Sullivan

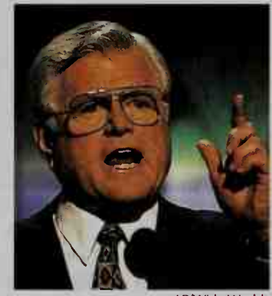
Kennebec River, *KEHN uh BEHK* or *KEHN uh BEHK,* flows for about 165 miles (266 kilometers) through southern Maine. It empties into the Atlantic Ocean near Bath (see **Maine** [physical map]). The river drops over 1,000 feet (300 meters) during its course. A series of waterfalls along the river is used to generate power. Augusta, the state capital, lies along the Kennebec. The first attempt at permanent English settlement in Maine was made at the mouth of the river in 1607. Paul B. Frederic

Kennedy, Anthony McLeod (1936-), became an associate justice of the Supreme Court of the United States in 1988. President Ronald Reagan named Kennedy to fill the vacancy created by Justice Lewis Powell's retirement. Reagan nominated Kennedy after the U.S. Senate rejected his first nominee, Robert H. Bork, and after his second nominee, Douglas H. Ginsburg, withdrew.

Kennedy was born in Sacramento, California. He graduated from Stanford University and earned a law degree from Harvard University. He practiced law in San Francisco from 1961 to 1963 and in Sacramento from 1963 to 1975. In that year, President Gerald Ford appointed Kennedy to the U.S. Court of Appeals for the Ninth Circuit. Kennedy also taught constitutional law at the McGeorge School of Law of the University of the Pacific in Sacramento from 1965 until his nomination to the Supreme Court. He is generally considered a conservative, as well as an advocate of *judicial restraint* in that he is reluctant to interfere with legislative policy unless that policy is clearly unconstitutional. Owen M. Fiss

See also **Supreme Court of the United States** (picture).

Kennedy, Edward Moore (1932-), a Democrat from Massachusetts, has served in the United States Senate since 1962. He was Democratic *whip* (assistant leader) of the Senate from 1969 to 1971. From 1979 to 1981, he served as chairman of the Senate's Judiciary Committee. He was chairman of the Labor and Human Resources Committee from 1987 to 1995. Kennedy is known as a national spokesman and defender of liberal causes. He has supported greater government spending on programs to help the poor, the working class, minorities, and other disadvantaged groups. In the Senate, he supported arms control, stronger antitrust laws, and tax reform. He also called for a program of national health insurance.


AP/Wide World
Edward M. Kennedy

Kennedy was an unsuccessful candidate for the Democratic presidential nomination in 1980. He lost the nomination to President Jimmy Carter.

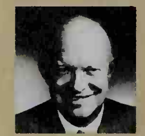
"Ted" Kennedy is the youngest child and only surviving son of Joseph P. and Rose Kennedy. His brothers President John F. Kennedy and Senator Robert F. Kennedy were assassinated.

Kennedy was born in Boston. He graduated from Harvard University in 1956 and from the University of Virginia Law School in 1959. He ran in 1962 for the Senate, surprising many people. He was only 30 years old, the minimum age for a senator, but he won easily.

In 1969, Kennedy's automobile plunged from a bridge on Chappaquiddick Island in Massachusetts, and his passenger, Mary Jo Kopechne, was drowned. She had been a staff worker of Robert Kennedy. James I. Lengle

Kennedy, Jacqueline Bouvier. See Onassis, Jacqueline Kennedy.

35th president of the United States 1961-1963



Eisenhower
34th president
1953-1961
Republican



Kennedy
35th president
1961-1963
Democrat



Johnson
36th president
1963-1969
Democrat





Lyndon B. Johnson
Vice president
1961-1963

Official color photograph by Alfred Eisenstaedt, *Life*

Kennedy, John Fitzgerald (1917-1963), was the youngest man ever elected president, and he was the youngest ever to die in office. He was shot to death on Nov. 22, 1963, after 2 years and 10 months as chief executive. The world mourned Kennedy's death, and presidents, premiers, and members of royalty walked behind the casket at his funeral. Kennedy was succeeded as president by Vice President Lyndon B. Johnson.

Kennedy, a Democrat, won the presidency with his "New Frontier" program, after a series of television debates with his Republican opponent, Vice President Richard M. Nixon. At 43, Kennedy was the youngest man ever elected president. (Theodore Roosevelt was 42 when he became president upon the death of William McKinley. He was 46 when he was elected president.) Kennedy was the first president of the Roman Catholic faith. He also was the first president born in the 1900's.

In his inaugural address, President Kennedy declared that "a new generation of Americans" had taken over leadership of the country. He said Americans would "... pay any price, bear any burden, meet any hardship, support any friend, oppose any foe to assure the survival and the success of liberty." He told Americans: "Ask not what your country can do for you—ask what you can do for your country."

Kennedy became widely known by his initials, JFK. He won world respect as the leader of the Free World. He greatly increased U.S. prestige in 1962 when he turned aside the threat of an atomic war with the Soviet Union while carrying out negotiations that resulted in the Soviets withdrawing missiles from Communist Cuba. The Kennedy action marked the start of a period of "thaw" in the Cold War as relations grew friendlier with the Soviet Union. In 1963, the United States, the Soviet Union, and over 100 other countries signed a treaty outlawing the testing of atomic bombs under water and on or above ground. On the home front, the United States enjoyed its greatest prosperity in history. African Americans' demands for civil rights caused serious domestic problems, but African Americans made greater progress in their quest for equal rights than at any time since the Civil War. During Kennedy's administration, the United States made its first piloted space flights and prepared to send astronauts to the moon.

The contributor of this article is Sean Wilentz, Dayton-Stockton Professor of History at Princeton University.

Early life

Family background. John Fitzgerald Kennedy was the second son of Joseph Patrick Kennedy (1888-1969) and Rose Fitzgerald Kennedy (1890-1995). The president's ancestors were Irish farmers of Wexford County in southeastern Ireland. His great-grandfather, Patrick Kennedy, left Ireland during the great potato famine of the 1840's and settled in Boston. The president's grandfather, Patrick J. Kennedy, became a state senator and the political "boss" of a ward in Boston.

The president's mother also came from a political family. Her father was John F. ("Honey Fitz") Fitzgerald, a colorful politician. Fitzgerald served in the state senate and the United States House of Representatives. He also served as mayor of Boston for two terms.

Joseph P. Kennedy, the president's father, was a self-made millionaire. During the administration of President Franklin D. Roosevelt, he served as the first chairman of the Securities and Exchange Commission and as U.S. ambassador to the United Kingdom.

Boyhood. Kennedy was born on May 29, 1917, in Brookline, Massachusetts, a Boston suburb. The other eight Kennedy children were Joseph, Jr. (1915-1944), who





Historic events of Kennedy's presidency included construction of the Berlin Wall and the first American manned space flights. The Berlin Wall divided East and West Berlin, closing the route used by millions of Germans to flee Communist rule. Astronaut John H. Glenn, Jr., orbited the earth in the space capsule *Friendship 7.*



The world of President Kennedy

Amendment 23 to the Constitution was adopted in 1961. It gave residents of the District of Columbia the right to vote in presidential elections.
The first person in space was the Soviet cosmonaut Yuri A. Gagarin. He orbited the earth in 1961. In 1962, astronaut John H. Glenn, Jr., became the first American to orbit the earth.
Literature published during Kennedy's administration included *Franny and Zooey* (1961) by J. D. Salinger, *Who's Afraid of Virginia Woolf?* (1962) by Edward Albee, and *The Group* (1963) by Mary McCarthy.
Adolf Eichmann, a top Nazi war criminal, was hanged in Israel in 1962 for his part in the massacre of European Jews during World War II.
Algeria won independence from France in 1962 after more than seven years of bloody fighting.
The communications satellite *Telstar I* was launched by the United States in 1962. It was the first satellite to relay television programs between America and Europe.
Silent Spring, Rachel Carson's book on the wasteful and destructive use of pesticides, helped launch the United States environmental protection movement in 1962.
The Supreme Court ruled in 1962-1963 that official prayers and Bible reading in public schools were unconstitutional.
South Vietnamese generals overthrew and killed President Ngo Dinh Diem in 1963.

Keystone; NASA

was killed in World War II; Rosemary (1918-); Kathleen (1920-1948); Eunice (1921-); Patricia (1924-); Robert F. (1925-1968), who became attorney general under his brother and then served as U.S. Senator from New York from 1965 until his assassination; Jean (1928-); and Edward M. "Ted" (1932-), who has served as a U.S. Senator from Massachusetts since 1962.

The Kennedys moved often, to bigger homes and better neighborhoods, as the family grew and as Joseph Kennedy became wealthier. From Brookline, they moved to Riverdale, N.Y., then Bronxville, N.Y., both New York City suburbs.

As the Kennedy children grew up, their parents encouraged them to develop their own talents and interests. Loyalty to each other was important to the Kennedys. But the children also developed a strong competitive spirit. Jack, as his family called him, and Joe, his older brother, were especially strong rivals. Jack was quiet and often shy, but he held his own in fights with Joe. The boys enjoyed playing touch football.

Education. John Kennedy attended elementary schools in Brookline and Riverdale. In 1930, when he was 13 years old, his father sent him to the Canterbury School in New Milford, Conn. The next year, he transferred to Choate Academy in Wallingford, Conn. Kennedy was graduated from Choate in 1935 at the age of 18. His classmates voted him "most likely to succeed."

Kennedy spent the summer of 1935 in England. He enrolled at Princeton University that fall, but he developed jaundice and left school after Christmas. He entered Harvard University in 1936. There he majored in government and international relations.

In 1939, Kennedy spent the spring and summer in Europe. Traveling from country to country, he interviewed politicians and statesmen. He sent his father detailed reports on their views of the crisis that soon led to World

Important dates in Kennedy's life

1917 (May 29) Born in Brookline, Mass.
1940 Graduated from Harvard University.
1941-1945 Served in the U.S. Navy during World War II.
1946 Elected to the U.S. House of Representatives.
1952 Elected to the U.S. Senate.
1953 (Sept. 12) Married Jacqueline Lee Bouvier.
1960 Elected President of the United States.
1963 (Nov. 22) Assassinated in Dallas, Tex.



John F. Kennedy National Historic Site

Kennedy's birthplace was this three-story frame house in Brookline, Mass., a suburb of Boston. The house still stands. He was the second of nine children in the Kennedy family.

War II in September 1939. Back at Harvard, Kennedy tried to explain in his senior thesis why the United Kingdom had not been ready for war. His thesis, published as *Why England Slept,* became a best-selling book.

Kennedy graduated *cum laude* (with praise) in 1940. He then enrolled in the Stanford University graduate business school, but dropped out six months later. After taking a trip through South America, Kennedy enlisted as a seaman in the U.S. Navy.

War hero. For a few months, Kennedy was stationed in Washington, D.C. He applied for sea duty following the Japanese attack on Pearl Harbor on Dec. 7, 1941. Kennedy was assigned to a PT boat squadron late in 1942. After learning to command one of the small craft, he was commissioned as an ensign.

Kennedy's PT boat was assigned to patrol duty off the Solomon Islands in the South Pacific. Shortly after midnight on Aug. 2, 1943, a Japanese destroyer cut his boat in two. Two of the crew were killed. Kennedy and the other 10 men clung all night to the wreckage of their boat. The next morning, Kennedy ordered his men to swim to a nearby island. Despite an injured back, he spent five hours towing one of the disabled crewmen to shore. Kennedy spent most of the next four days in the water, searching for help. On the fifth day, he persuaded friendly islanders on Cross Island to go for help. Kennedy's crew was rescued on August 7. For his heroism and leadership, Kennedy received the Navy and Marine Corps Medal. For being wounded in combat, he was awarded the Purple Heart.

In December 1943, the Navy returned Lieutenant Kennedy to the United States. He was suffering from malaria and his injured back gave him great pain. After recovering, Kennedy spent the rest of his naval service as an instructor and in various military hospitals. He then had a short career as a newspaper reporter.



Kennedy Campaign Headquarters

War hero Kennedy won the Navy and Marine Corps Medal as the skipper of a PT boat during World War II. Kennedy led his crew to safety after a Japanese destroyer cut the boat in two.

Career in Congress

The Kennedys had thought Jack would become a writer or a teacher. His brother Joe was going to be the family politician. But Joe's death in 1944 changed Jack's future. Later, as a U.S. senator, Kennedy said: "Just as I went into politics because Joe died, if anything happens to me tomorrow, my brother Bobby would run for my seat in the Senate. And if Bobby died, Teddy would take over for him."

U.S. representative. Kennedy began his political career in 1946. He ran for the U.S. House of Representatives. He opposed nine others for nomination in the solidly Democratic 11th Congressional District of Massachusetts. He won the nomination and went on to easily defeat his Republican opponent.

The 1946 campaign set a pattern that played a major part in Kennedy's political success. His brothers, sisters, and mother helped him win the nomination. The women organized teas in the homes of voters. But Joseph Kennedy was not publicly active in his son's campaigns. His isolationism before World War II, his conservatism, and his wealth made him a controversial figure.

In January 1947, Kennedy took his seat in Congress. Later that year, he became seriously ill, and doctors discovered that he was suffering from a malfunction of the adrenal glands. To control the ailment, he had to take medicine daily for the rest of his life. But he kept that fact from public view. In Congress, Kennedy voted for most of the social welfare programs of President Harry S. Truman. He was reelected in 1948 and 1950.

Campaign for the Senate. In April 1952, Kennedy announced that he would oppose Republican Senator Henry Cabot Lodge, Jr. Lodge, a popular and experienced legislator, seemed certain to win reelection.

Kennedy's mother and his brothers and sisters and their spouses joined him in the campaign. Dwight D. Eisenhower, the Republican presidential candidate, carried Massachusetts in the 1952 election. But Kennedy upset Lodge by 70,637 votes.

Kennedy's family. In 1951, Kennedy met his future wife at a dinner party in Washington, D.C. Jacqueline "Jackie" Lee Bouvier (July 28, 1929-May 19, 1994) was the daughter of a wealthy Wall Street broker, John V. Bouvier III. She had attended Vassar College and the Sorbonne in Paris. When she met Kennedy, she was a student at George Washington University in Washington. Later, she worked as an inquiring photographer for the *Washington Times-Herald.* She and Kennedy were married on Sept. 12, 1953. A daughter was stillborn on Aug. 23, 1956, and was unnamed. Their daughter Caroline was born on Nov. 27, 1957. Their son John Fitzgerald, Jr., was born on Nov. 25, 1960. He was killed in an airplane crash in 1999. Another son, Patrick Bouvier, was born prematurely on Aug. 7, 1963. He died on Aug. 9, 1963. Five years after Kennedy's death, Mrs. Kennedy married Aristotle Onassis, a Greek millionaire.

Senator Kennedy focused at first on helping industries in Massachusetts and New England. He sponsored bills to help such industries as fishing, textile manufacturing, and watchmaking. Kennedy served on the Senate Labor Committee, and the Government Operations Committee, chaired by Senator Joseph R. McCarthy. Robert Kennedy, his brother, served on the Government Operations Committee staff as an assistant counsel.

At the time, McCarthy was the most controversial figure in American politics. Many people praised him for his attacks on Communist influence in government. Oth-

ers criticized McCarthy because they felt he had violated the civil liberties of people investigated by his committee. Kennedy felt that McCarthy often abused his power and was endangering the honor of the Senate. Kennedy was ill when the Senate condemned McCarthy in 1954. But he said later that if he had been present, he would have voted for the condemnation.

During his first Senate term, Kennedy's back caused him severe pain. In October 1954, and in February 1955, he underwent corrective surgery. While recovering, he wrote a book about some of the brave deeds of U.S. senators. For the book, *Profiles in Courage,* Kennedy was awarded the Pulitzer Prize for biography in 1957.

In 1957, Kennedy was appointed to the Senate Foreign Relations Committee, a key assignment in Congress. He criticized the foreign policy of the Republican administration, and supported a program of increased aid to underdeveloped countries.

Kennedy also worked for moderate legislation to end alleged corruption in labor unions. He was a member of a Senate committee investigating racketeering in labor-management relations. Kennedy's brother Robert was counsel for the committee. The Kennedys and other committee members engaged in dramatic arguments with controversial labor leaders, including James R. "Jimmy" Hoffa, of the Teamsters Union.

Bid for the vice presidency. In June 1956, a movement to nominate Kennedy for vice president had gained strength among Democratic leaders. At the party's national convention in Chicago, Kennedy made the presidential nominating speech for former Governor Adlai E. Stevenson of Illinois. The delegates chose Stevenson to oppose Eisenhower for the second time. Kennedy worked furiously for the vice presidential nomination. But he lost to Senator Estes Kefauver of Tennessee after a close battle.

Election as president

Steps to the White House. Kennedy began working for the 1960 presidential nomination right after the 1956 convention. He spent nearly every weekend campaigning. In 1958, Kennedy won reelection to the Senate by a majority of 874,608 votes.

Many Democratic leaders thought Kennedy had several disadvantages as a presidential candidate. His main drawback was his religion. Alfred E. Smith, the only Roman Catholic ever nominated for president by a major political party, had been badly defeated in 1928. Other possible shortcomings included Kennedy's youth, his family wealth, and his relative inexperience in international affairs. Some Democrats opposed Kennedy because they thought he was too conservative and because he never actively opposed Senator McCarthy.

Kennedy decided that the key to the presidential nomination would be to win as many state primary elections as he could. He believed that victories in the primaries would prove he could win the presidency. Kennedy entered and won primaries in seven states.

At the Democratic national convention, Kennedy's chief opponents for the presidential nomination were Senator Lyndon B. Johnson of Texas, Senator Stuart Symington of Missouri, and Stevenson. Kennedy won on the first ballot. The delegates, at the request of Kennedy, nominated Johnson for vice president.



U.S. News & World Report

As senator, Kennedy served on a committee that investigated charges of corruption in labor unions. His brother Robert, *left,* was the counsel for the committee.

The Republicans chose Vice President Richard M. Nixon to oppose Kennedy for the presidency. Kennedy's old opponent, Henry Cabot Lodge, Jr., then U.S. delegate to the United Nations, was Nixon's running mate.

The 1960 campaign was a hard-fought race. Both candidates were young, vigorous campaigners. At first, most experts believed Nixon would win. He had the advantage of being vice president under Eisenhower, an unusually popular president.

But Kennedy was not as unknown as some people believed. His good looks, wealth, and attractive wife had made him a popular subject for articles in newspapers and magazines. Television also helped Kennedy greatly during his four televised debates with Nixon. His poise helped answer criticism that he lacked the maturity needed for the presidency. The debates marked the first time that presidential candidates argued campaign issues face-to-face.



United Press Int.

The televised debates between Kennedy and Richard M. Nixon marked the first time presidential candidates argued face-to-face. The debates helped Kennedy gain national recognition.

Kennedy's election

Place of nominating convention	Los Angeles
Ballot on which nominated	1st
Republican opponent	Richard M. Nixon
Electoral vote*	303 (Kennedy) to 219 (Nixon) and 15 (Byrd)
Popular vote	34,221,344 (Kennedy) to 34,106,671 (Nixon)
Age at inauguration	43

*For votes by states, see **Electoral College** (table).

Nixon ran chiefly on the record of the Eisenhower administration. Kennedy promised to lead Americans to a "New Frontier." He charged that, under the Republicans, the United States had lost ground to the Soviet Union in the Cold War.

Kennedy defeated Nixon by fewer than 115,000 popular votes. But he won a clear majority of votes in the Electoral College. Kennedy received 303 electoral votes to 219 for Nixon. Senator Harry F. Byrd of Virginia received 15 electoral votes. For the electoral vote by state, see **Electoral College** (table).

Kennedy was inaugurated on Jan. 20, 1961. As he took office, he faced such national problems as increased racial tensions, unemployment, and a sluggish economy. In foreign affairs, he faced the continuing spread of Communist influence, and the threat of nuclear war.

The national scene

The New Frontier, the name Kennedy gave to his program, got off to a slow start. But the 87th Congress finally began passing measures sponsored by the administration. In April 1961, the legislators approved aid to economically depressed areas. In May, Congress approved an increase in the minimum hourly wage from $1 to $1.25. In September 1962, Congress passed Kennedy's Trade Expansion Act. The act gave the president wide powers to cut tariffs so the United States could trade freely with the European Economic Community (now part of the European Union).

One of the most successful of Kennedy's programs was the U.S. Peace Corps. It was launched by executive order in March 1961, and was later authorized by Congress. The corps sent thousands of Americans abroad to help people in developing nations raise their standards of living. The Peace Corps seemed to carry the enthusiasm of the president to the people of other countries, who often called it "Kennedy's Corps."

Kennedy also met major legislative defeats. Congress rejected a cabinet-level Department of Urban Affairs and Kennedy's plan for medical care for the aged. Both measures later passed during Lyndon B. Johnson's presidency. Kennedy's farm program also suffered defeats.

Kennedy reorganized the nation's defense policies by increasing conventional weapons. He wanted to be prepared for nonnuclear wars and to make every effort to avoid using nuclear weapons.

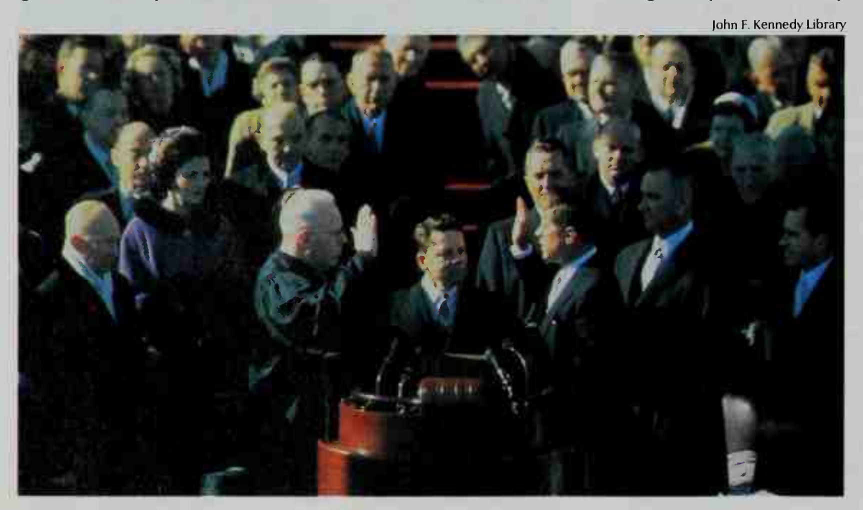
Business and labor. In March 1962, the major steel producers signed a contract with the steelworkers union that increased workers' benefits, but not their wages. Kennedy praised the contract, which he said would help prevent inflation. On April 10, the United States Steel Corporation led a move to raise steel prices $6 a ton. Kennedy angrily denounced the move as causing needless inflation, and the companies canceled it.

In May, prices on the New York Stock Exchange made their sharpest drop since 1929. Many people blamed the Kennedy administration. They felt the president's action toward the steel companies reflected an antibusiness attitude. Kennedy tried to answer these charges in a speech. He said there are three great ideas, or "myths," in our domestic affairs that may prevent effective action: (1) that the federal debt is too large; (2) that the federal government is too big; and (3) that business cannot place its confidence in his administration.

Kennedy aided business by increasing tax benefits for companies investing in new equipment. In 1963, he proposed a $10-billion tax cut, which included lowering corporate taxes. He thought that the public would be able to spend more if taxes were cut. The increased spending would generate new business, and the taxes received from an expanded economy would more than offset the revenue lost in the tax cut.

Civil rights. Demands for equal rights for African Americans became the major domestic issue during the Kennedy administration. In 1961, a group of nonviolent *freedom riders,* made up of blacks and whites, entered Montgomery, Alabama, by bus to test local segregation

John F. Kennedy Library



Kennedy's inauguration as president took place on Jan. 20, 1961. He was given the oath of office by Chief Justice Earl Warren. Vice President Lyndon B. Johnson stood to the right of Kennedy.

laws. White rioters attacked them, and Attorney General Robert F. Kennedy sent U.S. marshals to the city to help restore order. In 1962, James Meredith became the first African American to enroll at the University of Mississippi, despite much opposition. Two people were killed in the rioting that followed on the university campus at Oxford. The president ordered 3,000 federal troops to the area to restore order.

In 1963, demands by African Americans for equal civil and economic rights increased. Racial protests and demonstrations took place across the United States. In May 1963, rioting broke out in Birmingham, Alabama. In June, Kennedy federalized the Alabama National Guard to enforce the integration of the University of Alabama. Kennedy federalized the Guard again in September to ensure the integration of public schools in three Alabama cities. On Aug. 28, 1963, more than 200,000 people staged a *Freedom March* in Washington, D.C., to demonstrate their demands for equal rights for blacks.

To meet growing demands of African Americans, Kennedy asked Congress to pass legislation requiring hotels, motels, and restaurants to admit customers regardless of race. He also asked Congress to grant the attorney general authority to begin court suits to desegregate schools on behalf of private citizens unable to start legal action themselves. In requesting the sweeping civil rights legislation, the president said, "The time has come for the Congress of the United States to join with the executive and judicial branches in making it clear to all that race has no place in American life or law."

Other developments. Kennedy's Democratic Party gained four seats in the Senate and lost only two seats in the House in the 1962 elections. This was only the third time in the 1900's that the party in power increased its representation in Congress in a midterm election. In his second year in office, Kennedy appointed two justices of the Supreme Court. The first was Byron R. White, then deputy attorney general. The second was Secretary of Labor Arthur J. Goldberg.

Life in the White House. The Kennedys brought youth and informality to the White House. Caroline and John, Jr., were the youngest children of a president to live in the White House in more than 60 years. Caroline's antics and bright comments amused the nation.

Women in many countries copied Jacqueline Kennedy's stylish clothes and hairdo. In 1961, Mrs. Kennedy flew to Europe with her husband. Wherever she went, huge crowds gathered. President Kennedy presented himself to a Paris luncheon by saying, "I am the man who accompanied Jacqueline Kennedy to Paris. ..." In March 1962, Mrs. Kennedy toured Pakistan and India without the president. Mrs. Kennedy won praise for her redecoration of the White House. She gathered furnishings of past presidents and made the mansion a historic showplace and a tourist attraction. See **White House** (Rebuilding and redecorating).

The president gave recognition to the creative arts by appointing a special adviser on the arts. Many artists were invited to the White House.

Foreign affairs

Cuba. On April 17, 1961, Cuban rebels invaded their homeland to overthrow Fidel Castro, the Communist-supported dictator. The assault ended in disaster. President Kennedy accepted blame for the ill-fated invasion, which had been planned by the United States.



John F. Kennedy Library

Kennedy's family consisted of the president; his son, John, Jr.; "Jackie" Kennedy; and daughter Caroline.

Another Cuban crisis erupted in October 1962, when the United States learned that the Soviet Union had installed missiles in Cuba capable of striking U.S. cities. Kennedy ordered the U.S. Navy to *quarantine* (blockade) Cuba. Navy ships were ordered to turn back ships delivering Soviet missiles to Cuba. Kennedy also called about 14,000 Air Force reservists to active duty.

For a week, war seemed likely. Then, Soviet Premier Nikita S. Khrushchev ordered all Soviet offensive missiles removed. Kennedy then lifted the quarantine. For more details, see **Cuban missile crisis**.

Berlin. In 1961, the Soviet Union threatened to give Communist East Germany control over the West's air



Chicago Tribune

Kennedy's courage during the Cuban missile crisis was compared by a cartoon with the bravery described in his book *Profiles in Courage*. He had been awarded a Pulitzer for the book.

and land supply routes to Berlin. The threat was part of a Soviet effort to end the combined American, British, French, and Soviet control of Berlin, begun in 1945, when World War II ended. The Western nations opposed any threat to the freedom of West Berlin.

In June 1961, Kennedy discussed Berlin with Khrushchev at a two-day meeting in Vienna, Austria. Nothing was settled, and the crisis deepened. Both countries increased their military strength. In August, the East Germans built a wall between East and West Berlin to prevent people from fleeing to the West. Kennedy called up about 145,000 members of the National Guard and reservists to strengthen U.S. military defense. They were released about 10 months later. See **Berlin**.

Other developments. In 1961, the United States established the Alliance for Progress, a 10-year program of aid for Latin American countries that agreed to begin democratic reforms. Kennedy hoped this program would bring social and political reform as well as fight poverty.

In 1961, Kennedy was interviewed by Khrushchev's son-in-law, then editor of *Izvestia,* the Soviet government newspaper. *Izvestia* printed the entire interview.

In 1962, Congress approved a plan to purchase up to $100 million worth of bonds to help finance the UN.

The western Atlantic alliance remained strong, but Kennedy had trouble establishing a united NATO nuclear force. President Charles de Gaulle refused to commit France to the NATO nuclear force. He preferred an independent role for his country. Kennedy made a 10-day tour of Europe in the summer of 1963. He visited West Germany, Italy, Ireland, and the United Kingdom.

Southeast Asia continued to be a trouble spot. Kennedy ordered U.S. military advisers to the area in 1961 and 1962 when the Communists threatened South Vietnam and Thailand. Kennedy also sent advisers to Laos. In the summer and autumn of 1963, the United States severely criticized the South Vietnamese government headed by Ngo Dinh Diem for its repressive policies against the country's Buddhists. The government imprisoned many Buddhist leaders and students who were leading demonstrations against the Diem government. Kennedy sent former Republican senator and vice presidential candidate Henry Cabot Lodge, Jr., to South Vietnam as ambassador in 1963.

Arms control. In September 1961, the Soviets resumed testing atomic weapons. The tests broke an unofficial test ban that had lasted nearly three years. The United States began testing shortly after the Soviets resumed their tests, but the United States conducted its tests underground, which created no dangerous fallout. But in April 1962, the United States resumed testing in the atmosphere over the Pacific Ocean.

In July 1963, the Soviet Union, the United Kingdom, and the United States signed a treaty banning atomic testing in the atmosphere, outer space, and under water. Testing was permitted underground. Many countries that had no atomic weapons also signed the treaty.

Kennedy's assassination

John F. Kennedy was shot to death by an assassin on Nov. 22, 1963, as he rode through the streets of Dallas. His death continued the unhappy coincidence that, until that time, every American president since William H. Harrison who was elected in a year that ended in "0" died while in office. These presidents and the years of election were Harrison, who was elected in 1840; Abraham Lincoln, elected in 1860; James A. Garfield, 1880; William McKinley, 1900; Warren G. Harding, 1920; and Franklin D. Roosevelt, 1940.

Kennedy was succeeded by his vice president, Lyndon B. Johnson. Johnson was the first Southerner to become president since Andrew Johnson succeeded Lincoln when Lincoln was assassinated in 1865.

The death of the president. Kennedy came to Texas accompanied by his wife and Vice President and Mrs. Lyndon B. Johnson. The chief purpose of his trip was to heal a split in the Texas Democratic Party before the 1964 presidential campaign in which Kennedy planned to run for a second term. The Kennedy party left Washington, D.C., on Thursday, November 21, and flew to San Antonio, Houston, and Fort Worth. At 11:37 a.m. the next day, the president's plane arrived in Dallas after a short trip from Fort Worth.

Plans called for the president, Mrs. Kennedy, Johnson, and others to travel in a motorcade through the streets of Dallas to the Dallas Trade Mart. Kennedy was scheduled to speak there at a luncheon. After leaving the plane, Kennedy entered an open limousine for the trip to the Trade Mart. The president sat in the rear seat on the right side of the car. His wife, Jacqueline, sat on his left. Texas Governor John B. Connally sat in a "jump" seat in front of the president, and Mrs. Connally sat to her husband's left.

Behind the president's car was a limousine filled with Secret Service agents. Vice President and Mrs. Johnson rode in the third car, also accompanied by Secret Service men. Many other special security precautions had been taken. Dallas had a reputation as a center for people who strongly opposed Kennedy. But friendly, cheering crowds lined the streets.

At 12:30 p.m., the cars approached an expressway for the last leg of the trip. Suddenly, three shots rang out and the president slumped down, hit in the neck and head. Connally received a bullet in the back. Mrs. Kennedy held her stricken husband's head in her lap as the limousine raced to nearby Parkland Hospital.

Doctors worked desperately to save the president, but he died at 1:00 p.m. without regaining consciousness. Doctors said that Kennedy had no chance to sur-

Vice president and Cabinet

Vice president	*Lyndon B. Johnson
Secretary of state	*Dean Rusk
Secretary of the treasury	C. Douglas Dillon
Secretary of defense	*Robert S. McNamara
Attorney general	*Robert F. Kennedy
Postmaster general	J. Edward Day John A. Gronouski, Jr. (1963)
Secretary of the interior	Stewart L. Udall
Secretary of agriculture	*Orville L. Freeman
Secretary of commerce	Luther H. Hodges
Secretary of labor	*Arthur J. Goldberg W. Willard Wirtz (1962)
Secretary of health, education, and welfare	*Abraham A. Ribicoff Anthony J. Celebrezze (1962)

*Has a separate biography in *World Book.*



UPI/Bettmann Newsphotos

Moments before being shot, Kennedy rode past a friendly crowd in Dallas on Nov. 22, 1963. Mrs. Kennedy sat next to him, and Governor John B. Connally of Texas sat in front of him. Suddenly, shots rang out. Kennedy was fatally wounded, and Connally was seriously injured.

vive when brought into the hospital. Governor Connally, although seriously wounded, later recovered.

The new president. Television and radio flashed the news of the shooting to a shocked world. Vice President Johnson raced to the hospital and remained until Kennedy died. Then, he went to the airport where the presidential plane waited. Mrs. Kennedy and the coffin holding her husband's body arrived later. At 2:39 p.m., U.S. District Judge Sarah T. Hughes administered the oath of office to Johnson, who became the 36th president of the United States. As Johnson took the oath in the airplane, he was flanked by his wife and by Mrs. Kennedy.

Then the plane carrying the new chief executive and his wife, the body of the dead president, and the late president's widow returned to Washington. When the plane arrived, Johnson told the nation: "This is a sad time for all people. We have suffered a loss that cannot be weighed. ..."

The death of Oswald. Witnesses said the shots that killed the president came from a sixth-floor window of the Texas School Book Depository, a building along the route of the motorcade. Police raced into the building but could not find the killer. Then they began a search for a building employee who had left the scene a few minutes after the shooting. About 1:15 p.m., the employee, Lee Harvey Oswald, is said to have shot and killed a Dallas policeman, J. D. Tippit, while resisting arrest.

Oswald was finally arrested in a theater a short while later, and was charged with the murders of President Kennedy and Tippit. Oswald had been given a hardship discharge from the U.S. Marines and had once tried to become a Soviet citizen. An admitted Marxist, Oswald had a Soviet wife. He also had been active in the Fair Play for Cuba Committee, a group that supported Cuba's Communist dictator Fidel Castro.

The police questioned Oswald for two days, but he denied both murders. Dallas police claimed that the evidence against Oswald was overwhelming. The murder weapon, an Italian rifle with a telescopic sight, was found hidden in the School Book Depository. It had been purchased by Oswald from a mail-order firm for $12.78. Oswald's palm prints were found on the weapon.

On Sunday, November 24, two days after the assassination, Oswald was scheduled to be taken from the Dallas city jail to the county jail. As he was being led to an armored car for the trip, a Dallas nightclub owner, Jack Ruby (or Rubinstein), stepped out of the crowd and shot Oswald to death. A nationwide television audience witnessed the shooting. Oswald was taken to the same hospital where the president died. He died at 1:07 p.m., 48 hours after Kennedy's death. Jack Ruby was convicted of Oswald's murder in 1964, but the conviction was overturned in 1966. Ruby died in 1967, awaiting a new trial.

The world mourns. The sudden death of the young and vigorous American president shocked the world. Kennedy's body was brought back to the White House and placed in the East Room for 24 hours. On the Sunday after the assassination, Kennedy's flag-draped coffin was carried to the Capitol Rotunda to lie in state. Throughout the day and night, hundreds of thousands of people filed past the guarded casket.

Representatives from over 90 countries attended the funeral on November 25. Among them were Irish Presi-



AP/Wide World

The Texas School Book Depository, *shown here,* became famous as the site from which an assassin shot Kennedy. The killer fired when Kennedy's car reached the spot marked by the cross.



Lee Harvey Oswald, the accused assassin, was shot by Jack Ruby, *right,* two days after Kennedy died. Millions of television viewers saw Ruby kill Oswald, who was under police guard.



The nation's sorrow at the assassination of President Kennedy was eloquently expressed in this drawing of a grieving Abraham Lincoln by the cartoonist Bill Mauldin.

dent Eamon de Valera, French President Charles de Gaulle, Belgian King Baudouin, Ethiopian Emperor Haile Selassie, Philippine President Diosdado Macapagal, and West German President Heinrich Luebke.

Kennedy was buried with full military honors at Arlington National Cemetery across the Potomac River from Washington, D.C. At the close of the funeral service, Mrs. Kennedy lighted an "eternal flame" to burn over the president's grave. When Mrs. Kennedy died in 1994, she was buried next to her late husband.

In one of his first acts, President Johnson named the National Aeronautics and Space Administration installation in Florida the John F. Kennedy Space Center. Other

Quotations from Kennedy

The following quotations come from some of Kennedy's speeches and writings.

For without belittling the courage with which men have died, we should not forget those acts of courage with which men ... have lived ... A man does what he must—in spite of personal consequences, in spite of obstacles and dangers and pressures—and that is the basis of all human morality.

Profiles in Courage, 1956

And so, my fellow Americans: ask not what your country can do for you—ask what you can do for your country.

Inaugural Address, Jan. 20, 1961

Let the word go forth from this time and place, to friend and foe alike, that the torch has been passed to a new generation of Americans, ... unwilling to witness or permit the slow undoing of those human rights to which this nation has always been committed and to which we are committed today at home and around the world. Let every nation know, whether it wishes us well or ill, that we shall pay any price, bear any burden, meet any hardship, support any friend, oppose any foe to assure the survival and the success of liberty.

Inaugural Address, Jan. 20, 1961

Let us never negotiate out of fear. But let us never fear to negotiate.

Inaugural Address, Jan. 20, 1961

No one has been barred on account of his race from fighting or dying for America—there are no "white" or "colored" signs on the foxholes or graveyards of battle.

Message to Congress on proposed civil rights bill, June 19, 1963

All free men, wherever they may live, are citizens of Berlin, and, therefore, as a free man, I take pride in the words "Ich bin ein Berliner" ("I am a Berliner").

Address at City Hall in West Berlin, Germany, June 26, 1963

When power leads man toward arrogance, poetry reminds him of his limitations. When power narrows the areas of man's concern, poetry reminds him of the richness and diversity of his existence. When power corrupts, poetry cleanses. For art establishes the basic human truth which must serve as the touchstone of our judgment.

Address at Amherst College, Oct. 26, 1963

public buildings and geographical sites throughout the world were named for Kennedy. Congress voted funds for the John F. Kennedy Center for the Performing Arts in Washington, D.C. The United Kingdom made 1 acre (0.4 hectare) of ground permanent United States territory as part of a Kennedy memorial at Runnymede. In 1979, the John F. Kennedy Library opened in Boston.

The assassination controversy. The Warren Commission, headed by Chief Justice Earl Warren, investigated the assassination. In 1964, the commission reported that Oswald had acted alone. But critics disputed the findings. Many believed Oswald was part of a group that had planned to murder Kennedy.

During the 1970's, a special committee of the United States House of Representatives reexamined the evidence surrounding the assassination. The committee accepted the testimony of *acoustical* (sound) experts who claimed that shots were fired from two locations along the motorcade at almost the same time. In 1978, the committee concluded that Kennedy "was probably assassinated as a result of a conspiracy." But other authorities strongly disputed the committee's conclusion. In 1982, the National Research Council, a scientific research organization, also disagreed with the House committee's finding. Sean Wilentz



The world mourned as Kennedy's funeral was held with full military honors. The solemn procession traveled past the Lincoln Memorial, *shown here,* on its way to Arlington National Cemetery, where the president was buried.

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- B. Boyhood
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- D. War hero

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- D. Senator Kennedy
- E. Bid for the vice presidency

III. Election as president
- A. Steps to the White House
- B. The 1960 campaign

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Questions

How did Kennedy win fame as a war hero?
How did his brother's death affect Kennedy's career?
What part did Kennedy's family play in his political victories?
How did Kennedy and Nixon use television during the 1960 campaign?
How did the Kennedys change White House life?
What was Kennedy's greatest problem in foreign policy during his years in office?

Additional resources

Level I

Anderson, Catherine C. *John F. Kennedy.* Lerner, 1991.
Cole, Michael D. *John F. Kennedy.* Enslow, 1996.
Harrison, Barbara, and Terris, Daniel. *A Twilight Struggle: The Life of John Fitzgerald Kennedy.* Lothrop, 1992.

Level II

Giglio, James N. *The Presidency of John F. Kennedy.* Univ. Pr. of Kans., 1992.
Goldman, Martin S. *John F. Kennedy.* Facts on File, 1995.
Reeves, Richard. *President Kennedy.* Simon & Schuster, 1993.

Kennedy, Joseph Patrick (1888-1969), was the head of a family that became prominent in American government and business. Kennedy was a self-made multimillionaire who earned most of his great wealth by investing in stocks, bonds, and real estate. He held several government positions, and his sons included a United States president and two senators.

His life. Kennedy was born in Boston. He graduated from Harvard University in 1912 and went to work as a bank examiner. At the age of 25, he gained control of a small bank in East Boston and became the country's youngest bank president. He later managed a shipbuilding company and an investment banking firm. He also served as president and board chairman of several theater and motion-picture organizations.

In 1934, President Franklin D. Roosevelt named Kennedy to the newly created Securities and Exchange Commission, a government agency that regulates stock trading. He was elected its first chairman. He served as U.S. ambassador to the United Kingdom from 1937 to 1940.

His family. In 1914, Kennedy married Rose Fitzgerald, daughter of the mayor of Boston. They had four sons and five daughters. The oldest child, Joseph, Jr., was killed in 1944, during World War II, on a mission as a U.S. Navy pilot. The other three Kennedy sons were John F. Kennedy, U.S. president from 1961 until his death in 1963; Robert F. Kennedy, who became U.S. attorney general in 1961 and a U.S. senator in 1965; and Edward M. Kennedy, who became a U.S. senator in 1962.

The Kennedy daughters were Rosemary; Kathleen, the wife of the Marquess of Hartington; Eunice, the wife of Sargent Shriver, first director of the Peace Corps; Patricia, once married to actor Peter Lawford; and Jean, the wife of Stephen E. Smith, a shipping company executive. Eunice founded the Special Olympics, an athletic competition for mentally disabled children and adults.

Robert's son Joseph P. Kennedy II represented Massa-

chusetts in the U.S. House of Representatives from 1987 to 1999. Edward's son Patrick became a representative from Rhode Island in 1995. Robert's daughter Kathleen Townsend took office as lieutenant governor of Maryland in 1995. John's son, John, Jr., was cofounder and publisher of the political satire magazine *George*. He died in a plane crash in 1999. His sister, Caroline Kennedy Schlossberg, is an attorney and author. Sean Wilentz

See also **Kennedy, Edward M.; Kennedy, John F.; Kennedy, Robert F.; Shriver, Sargent.**

Kennedy, Robert Francis (1925-1968), served as attorney general of the United States from 1961 to 1964 and as U.S. senator from New York from 1965 to 1968. He was assassinated in Los Angeles in June 1968, while campaigning for the Democratic nomination for president. In 1969, Sirhan Bishara Sirhan, a Jordanian-born Arab, was convicted of the assassination and sentenced to death. The sentence was changed to life imprisonment in 1972 after the California Supreme Court declared the state's death penalty unconstitutional.

Robert Kennedy was appointed attorney general of the United States by his brother, President John F. Kennedy, in 1961. Robert also acted as his brother's closest personal adviser. After the president's assassination in 1963, Kennedy continued as attorney general under President Lyndon B. Johnson. Kennedy resigned from the Cabinet position in 1964 to run for the Senate.

Kennedy had entered the government in 1951 as an attorney in the United States Department of Justice. From 1953 to 1955, he was a counsel for the Senate Permanent Subcommittee on Investigations. Kennedy gained public attention during the late 1950's when he was chief counsel for the Senate committee that investigated improper labor and management activities. Kennedy managed his brother's campaigns for the U.S. Senate in 1952 and for the presidency in 1960. Kennedy wrote *The Enemy Within* (1960), *Just Friends and Brave Enemies* (1962), *To Seek a Newer World* (1967), and *Thirteen Days: A Memoir of the Cuban Missile Crisis* (1969).

Kennedy was born in Brookline, Massachusetts. He graduated from Harvard University and the University of Virginia Law School. His son Joseph P. Kennedy II of Massachusetts was a member of the U.S. House of Representatives from 1987 to 1999. William E. Pemberton

See also **Kennedy, John Fitzgerald** (picture: As senator).

Additional resources

Harrison, Barbara, and Terris, Daniel. *A Ripple of Hope: The Life of Robert F. Kennedy.* Lodestar, 1997. Younger readers.
Hilty, James W. *Robert Kennedy.* Temple Univ. Pr., 1997.

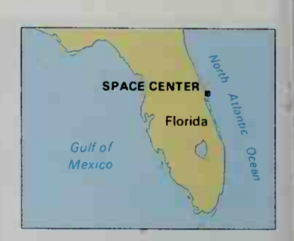
Kennedy, Ted. See Kennedy, Edward M.

Kennedy Center for the Performing Arts is a national cultural center in Washington, D.C. Its full name is the John F. Kennedy Center for the Performing Arts. The National Symphony Orchestra and the Washington Opera are resident companies of the center.

The Kennedy Center for the Performing Arts houses five theaters. The Concert Hall, which has 2,750 seats, features concert music and popular entertainers. The Opera House seats 2,200 spectators and presents opera, ballet, and musical comedies. The Eisenhower Theater, which seats 1,100 people, offers plays and smaller opera and dance productions. The Terrace Theater seats 500

John F. Kennedy NASA Space Center

The Kennedy Space Center lies on the Atlantic coast of Florida. It is the primary launch and recovery site of the reusable space vehicle called the space shuttle.





WORLD BOOK maps

people for chamber music and small plays. The 250-seat Theater Lab hosts many free performances for young people. The American architect Edward Durell Stone designed the center, which was erected as a national memorial to the late president.

The Kennedy Center for the Performing Arts, which opened in 1971, is an affiliate of the Smithsonian Institution. A board of 45 trustees administers the center. The president of the United States appoints 30, and 3 come from each house of Congress. Each of the other 9 represents a government or nongovernment agency.

Critically reviewed by the John F. Kennedy Center for the Performing Arts

Kennedy Space Center, on the east coast of Florida, is the launch facility for all United States space missions that carry crews. Its full name is the John F. Kennedy Space Center of the National Aeronautics and Space Administration (NASA). The center is located on Merritt Island, across from a point of land called Cape Canaveral. People often call the center *Cape Canaveral* because it was formerly located there.

NASA tests, repairs, and launches space shuttles at Kennedy Space Center. To prepare a shuttle for launch,

workers in the 52-story Vehicle Assembly Building attach the external fuel tank to the *orbiter* (the craft that carries the crew) and two booster rockets. A huge tractorlike machine called a *crawler* then carries the shuttle to one of two launch pads.

Kennedy Space Center evolved from NASA's Launch Operations Directorate on Cape Canaveral. NASA leased facilities from the United States Air Force. The directorate was a part of the George C. Marshall Space Flight Center, whose headquarters were in Huntsville, Alabama. In 1962, NASA made the directorate an independent unit and renamed it the Launch Operations Center. The center received its present name in December 1963, the month after the assassination of President John F. Kennedy. In 1964, NASA moved the center to Merritt Island because the Cape Canaveral facilities were not large enough to handle the assembly, service, and launching of huge rockets that were to be used for the flights carrying astronauts to the moon. NASA continues to assemble and test satellites and space probes on Cape Canaveral. Critically reviewed by NASA

Kenny, Elizabeth (1880-1952), an Australian nurse, developed a method of treating poliomyelitis (see **Poliomyelitis**). Kenny was born in Warialda, New South Wales. She became a nurse in Australia's *bush* (remote countryside). One day, an epidemic of poliomyelitis struck, and Kenny could not get medical help. This led her to invent her own method of treating the victims. She found that prompt application of hot woolen packs relieved muscle spasms and usually prevented the patient from becoming crippled.

Sister Kenny, as she was called after she became a head nurse, served as a nurse in the Australian Army during World War I (1914-1918). In 1933, she set up her own clinic in Townsville, Queensland. Her treatment was accepted for use in Australian hospitals by 1939. She lectured and demonstrated the method in the United States in 1940 and secured funds to set up the Elizabeth Kenny Institute in Minneapolis, Minnesota. She wrote many treatises on polio and an autobiography, *And They Shall Walk* (1943). Elizabeth Fee

Kensington rune stone is a slab inscribed with early Germanic characters called *runes*. Olaf Ohman, a Swedish-born American farmer, claimed he found the stone on his farm near Kensington, Minnesota, in 1898. The stone's inscription is dated 1362. It tells of a group of Swedish and Norwegian Vikings who set out on an expedition from an area of eastern North America called Vinland. The language has some features that are more modern than typical language of the 1300's. Ohman owned a book about runes, and many experts believe he forged the stone. Others believe it is real. They argue that the message could only have been written by someone with great knowledge of the Norse language of the 1300's. See also **Rune; Vinland.** James E. Cathey

Kent, James (1763-1847), was an American legal authority. As chancellor of the New York Court of Chancery, he increased the court's influence and adapted English equity law to cases tried before him (see **Equity**). His *Commentaries on American Law* (1826-1830) had great influence on American legal practice.

Kent was born in Fredericksburgh, New York. In 1793, he became a professor of law at Columbia College (now part of Columbia University). He became chief justice of the Supreme Court of New York in 1804 and served as chancellor of the New York Court of Chancery from 1814 to 1823. Richard N. Current

Kent, Rockwell (1882-1971), was an American artist and author. He found material for his books and many of his drawings on his travels to remote parts of the world. He won fame in 1920 with *Wilderness: A Journal of a Quiet Adventure in Alaska*. He next traveled to the southern tip of South America. He made the last part of his trip in a lifeboat. He wrote about this journey in *Voyaging: Southward from the Strait of Magellan* (1924). These books and *Salamina* (1935) and *N by E* (1936) established him as both a writer and an artist. Kent also wrote the autobiography *It's Me, O Lord* (1955).



Wood engraving (1933); Rockwell Kent

Rockwell Kent's *Drifter,* *shown here,* is typical of the artist's black-and-white wood engravings. Kent's style features bold patterns, simplified settings, and dramatic characterizations.

Kent's work showed consistently sure draftsmanship and a strong sense of design. His illustrated editions of books written by other authors include *Moby-Dick, Beowulf,* and *The Canterbury Tales.*

Kent was born in Tarrytown Heights, New York. He studied painting with some noted artists, including William Merritt Chase and Robert Henri. Charles P. Green

Kenton, Stan (1912-1979), was an American bandleader, pianist, and composer. Throughout his career, Kenton led bands that departed from the big-band sound of the swing era. For example, in 1950, he toured with his 40-piece Innovations in Modern Music Orchestra, which included strings. In 1961, Kenton formed an orchestra featuring a brass instrument called the *mellophone*. In 1965, he assembled a semisymphonic band of 27 pieces he called the Neophonic Orchestra.

Such Kenton compositions as "Artistry in Rhythm" (1943), "Eager Beaver" (1943), and "Intermission Riff" (1946) became famous. Kenton helped establish the careers of such famous jazz musicians as alto saxophonists Lee Konitz and Art Pepper, trumpeter Maynard Ferguson, and drummer Shelly Manne.

Stanley Newcomb Kenton was born in Wichita, Kansas. In 1941, he formed his first band, which received wide praise for its precise, brassy sound. Its popularity increased after Pete Rugolo began arranging the band's music in 1945. Many jazz critics disliked Kenton's music during his lifetime, but his bands remained popular with listeners. Eddie Cook


William Strode, Woodfin Camp, Inc.

Kentucky horse farms produce some of the world's finest thoroughbred race horses. Most such farms, including the one shown here, are found in the state's Bluegrass Region, near Lexington.

Kentucky *The Bluegrass State*

Kentucky is one of the border states that lie between the North and the South of the United States. Its long northern border is formed by the Ohio River, one of the traditional boundaries between the Northern States and the Southern States. Kentucky also forms a link between two of the great land features of the United States. Its eastern border touches the Appalachian Mountains. About 350 miles (563 kilometers) to the west, Kentucky touches the Mississippi River.

Tobacco and champion race horses have long been symbols of Kentucky. Thoroughbred race horses still graze on the lush grass of the region around Lexington, in central Kentucky. The region is known for the bluish grass blossoms that give Kentucky the nickname the *Bluegrass State.* Each May, huge crowds thrill to the excitement of the country's most famous horse race, the Kentucky Derby, held at Churchill Downs in Louisville.

Kentucky is also an important center of agriculture and mining. It leads the states in the production of burley tobacco, and it ranks second only to North Carolina in total tobacco production. Kentucky is a leading coal-producing state. Coal is mined in Kentucky's eastern Appalachian counties and in western Kentucky. In addition, the state is the leading producer in the United States of bourbon whiskey.

The contributors of this article are Tracy Campbell, Associate Professor of History at the University of Kentucky and author of The Politics of Despair: Power and Resistance in the Tobacco Wars, *and Karl B. Raitz, Professor of Geography at the University of Kentucky and coeditor of* Atlas of Kentucky.

Some of the nation's most popular tourist attractions are in Kentucky. They include Cumberland Falls, Mammoth Cave, Natural Bridge, and Land Between the Lakes. Most of the nation's gold reserves are stored in the depository at Fort Knox, which is south of Louisville.

A group of colonists from Pennsylvania established the first permanent white settlement in what is now Kentucky in 1774. Kentucky became the 15th state of the Union in 1792. During the American Civil War (1861-1865), Kentucky stayed in the Union, but thousands of Kentuckians joined the Confederate armies. Several Civil War battles took place in Kentucky. Abraham Lincoln and Jefferson Davis, the opposing presidents in the Civil War, both were born in Kentucky, less than 100 miles (160 kilometers) apart.

In 1900, an assassin's bullet killed the governor of Kentucky, William Goebel, and Kentucky nearly had a civil war of its own. A few years later, conflict did occur in parts of the state. From 1904 to 1909, Kentucky farmers fought a group of tobacco firms in the so-called Tobacco Wars.

Kentucky got its name from a Cherokee Indian word whose possible meanings include *Land of Tomorrow* and *Meadowland.* It is one of four states officially called *Commonwealths.* The others are Massachusetts, Pennsylvania, and Virginia. Kentucky was named a commonwealth to honor Virginia, which owned the region before Kentucky became a state.

Interesting facts about Kentucky

The Mammoth-Flint Ridge cave system, entirely within Kentucky, is the longest known cave system in the world. The system is more than 300 miles (483 kilometers) long. It includes the famous Mammoth Cave and is part of Mammoth Cave National Park.



The Kentucky Derby

The Kentucky Derby is the oldest continuously run horse race in the United States. The first Derby was run in 1875 as part of the program for the opening of Churchill Downs race track in Louisville. Now, each May, thousands of trackside spectators and millions of television viewers watch the "run for the roses"—the blanket of roses presented to the winning horse and jockey.

WORLD BOOK illustrations by Kevin Chadwick

The gold depository at Fort Knox contains more than $6 billion in gold bullion. The bullion, placed in the vaults of the depository by the U.S. Treasury Department, represents nearly all of the gold owned by the U.S. government.

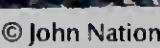
Kentucky tobacco growers lead the world in the production of burley tobacco, a ranking they have held for more than 100 years. Burley tobacco was first grown in Kentucky during the 1860's.



Fort Knox gold vault

The world's first free-flowing oil well was drilled near Burkesville, Kentucky, in 1829. Before that, people generally recovered oil only when it seeped through the ground or accidentally gushed from salt wells. Oddly, the Burkesville oil was never collected. It flowed unused into the nearby Cumberland River.





© John Nation

Louisville lies on the shore of the Ohio River, which forms Kentucky's long northern border. The city provides Kentucky with a major river port.



© James R. Rowan

Cumberland Falls, in Cumberland Falls State Resort Park, is often called "Niagara of the South." This beautiful waterfall on the Cumberland River cascades about 68 feet (21 meters).



Martin Rogers, FPG

Whiskey brews in vats in a Kentucky distillery. Kentucky leads the nation in bourbon whiskey production. Whiskey manufacturing centers include Louisville, Bardstown, and Frankfort.

Kentucky in brief

Symbols of Kentucky

The state flag, first adopted in 1918, bears the state seal. The lower portion of the seal is surrounded by a wreath of goldenrod, the state flower. The goldenrod, gold lettering, and blue field display the state's official colors. On the state seal, first adopted in 1792, a frontiersman and a statesman embrace. The state motto, *United We Stand, Divided We Fall,* appears above and below them. A wreath of goldenrod decorates the bottom.







State flag

State seal

Kentucky (brown) ranks 37th in size among all the states, and 10th in size among the Southern States (yellow).

General information

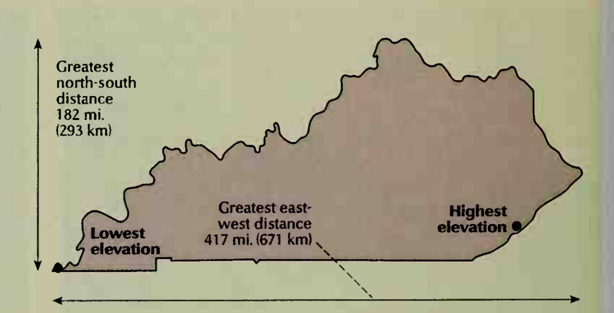
Statehood: June 1, 1792, the 15th state.
State abbreviations: Ky. or Ken. (traditional); KY (postal).
State motto: *United We Stand, Divided We Fall.*
State song: "My Old Kentucky Home." Words and music by Stephen Collins Foster.



The State Capitol is in Frankfort, Kentucky's capital since 1793. Lexington served as the temporary capital in 1792.

Land and climate

Area: 40,411 mi² (104,665 km²), including 679 mi² (1,758 km²) of inland water.
Elevation: *Highest*—Black Mountain, 4,145 ft (1,263 m) above sea level. *Lowest*—257 ft (78 m) above sea level along the Mississippi River in Fulton County.
Record high temperature: 114 °F (46 °C) at Greensburg on July 28, 1930.
Record low temperature: −37 °F (−38 °C) at Shelbyville on Jan. 19, 1994.
Average July temperature: 77 °F (25 °C).
Average January temperature: 34 °F (1 °C).
Average yearly precipitation: 47 in (119 cm).



Important dates

- **1750** Thomas Walker made the first thorough exploration of what is now Kentucky.
- **1774** Harrodsburg, the first permanent Kentucky settlement, was founded.
- **1792** Kentucky became the 15th state on June 1.
- **1861-1865** Kentucky, a border state, sided with the Union during the Civil War.


State bird
Kentucky cardinal


State flower
Goldenrod


State tree
Tulip-poplar (yellow-poplar)

People

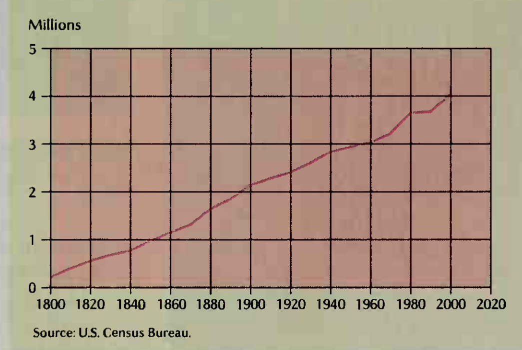
Population: 4,041,769 (2000 census)
Rank among the states: 25th
Density: 100 persons per sq. mi. (39 per km²), U.S. average 78 per sq. mi. (30 per km²)
Distribution*: 52 percent urban, 48 percent rural

Largest cities in Kentucky

Lexington	260,512
Louisville	256,231
Owensboro	54,067
Bowling Green	49,296
Covington	43,370
Hopkinsville	30,089

Source: 2000 census, except for *, where figures are for 1990.

Population trend



Source: U.S. Census Bureau.

Year	Population
2000	4,041,769
1990	3,698,969
1980	3,660,257
1970	3,220,711
1960	3,038,156
1950	2,944,806
1940	2,845,627
1930	2,614,589
1920	2,416,630
1910	2,289,905
1900	2,147,174
1890	1,858,635
1880	1,648,690
1870	1,321,011
1860	1,155,684
1850	982,405
1840	779,828
1830	687,917
1820	564,317
1810	406,511
1800	220,955
1790	73,677

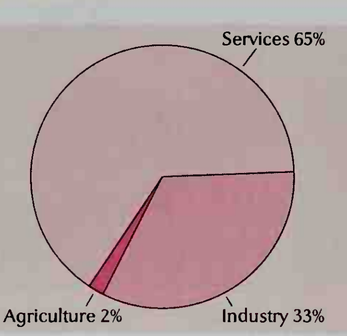
Economy

Chief products

Agriculture: tobacco, beef cattle, horses, soybeans, corn, milk.
Manufacturing: transportation equipment, chemicals, tobacco products, machinery, food products, fabricated metal products, electrical equipment.
Mining: coal.

Gross state product

Value of goods and services produced in 1998: $107,152,000,000. *Services* include community, business, and personal services; finance; government; trade; and transportation, communication, and utilities. *Industry* includes construction, manufacturing, and mining. *Agriculture* includes agriculture, fishing, and forestry.



Source: U.S. Bureau of Economic Analysis.

Government

State government

Governor: 4-year term
State senators: 38; 4-year terms
State representatives: 100; 2-year terms
Counties: 120

Federal government

United States senators: 2
United States representatives: 6
Electoral votes: 8

Sources of information

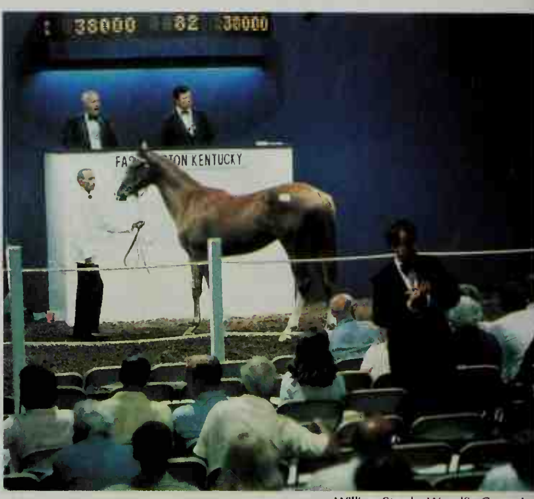
For information about tourism, write to: Kentucky Department of Travel, 500 Mero Street, #2200, Frankfort, KY 40601. The Web site at www.kentuckytourism.com also provides information.
For information on the economy, write to: Kentucky Cabinet for Economic Development, 2400 Capital Plaza Tower, 500 Mero Street, Frankfort, KY 40601.
The state's official Web site at www.state.ky.us also provides a gateway to much information on Kentucky's economy, government, and history.

1914 The state legislature authorized a statewide system of roads.
1936 The U.S. Treasury established a gold vault at Fort Knox.
1955 Kentucky lowered its voting age requirement to 18.
1990 Kentucky Education Reform Act launched reform of state's public schools.
1992 Amendment approved allowing reelection of state officers to second consecutive term.
2000 Amendment approved allowing yearly sessions of state legislature.



Kentucky Department of Travel Development

An arts and crafts fair in Berea features work by some of Kentucky's finest artists and craftworkers. This popular annual event takes place in the foothills of eastern Kentucky.



William Strode, Woodfin Camp, Inc.

Horse auctions are important events in Kentucky. Kentuckians breed and raise champion race horses. Some of the horses are sold at auctions for more than $1 million.

Population. The 2000 United States census reported that Kentucky had 4,041,769 people. The population had increased nearly 10 percent over the 1990 figure, 3,685,296. According to the 2000 census, Kentucky ranks 25th in population among the 50 states.

About 49 percent of Kentucky's people live in the seven Metropolitan Statistical Areas that are entirely or partly in Kentucky (see **Metropolitan area**). These areas are Cincinnati, Ohio; Clarksville (Tennessee)-Hopkinsville; Evansville (Indiana)-Henderson; Huntington (West Virginia)-Ashland; Lexington; Louisville; and Owensboro. For the populations of these areas, see the *Index* to the political map of Kentucky.

Lexington is Kentucky's largest city. Other major cities include Louisville, Owensboro, Bowling Green, Covington, Hopkinsville, and Frankfort, the state capital.

About 89 percent of Kentucky's people are non-Hispanic whites. African Americans account for about 7 percent of the population.

Between 1950 and 1970, thousands of Kentuckians moved from rural to urban areas. In 1950, about a third of the people lived in urban areas. By 1970, city residents made up about half of Kentucky's population.

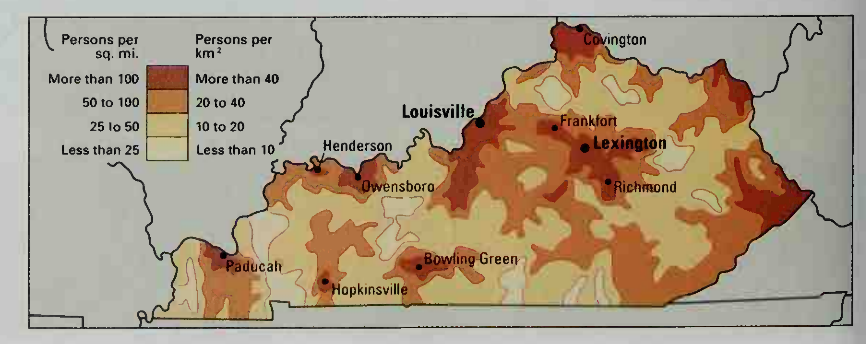
Schools. The first school in the Kentucky region was established in about 1775. Mrs. William Coomes, a pioneer schoolteacher, opened the school in Harrodsburg, Kentucky's first white permanent settlement. Other early schools were established in McAfee's Station in 1777, Boonesborough in 1779, and Lexington in 1783. The first institution of higher learning west of the Allegheny Mountains was chartered in Kentucky in 1780. The school, Transylvania Seminary, opened in 1785 in what is now Danville. It moved to Lexington in 1788 and later became Transylvania University.

In 1837, a fund for public education was set aside. In 1838, the legislature established the state's first public school system. In 1989, the Kentucky Supreme Court declared the state's school system unconstitutional because of vast differences in spending among school districts. The Kentucky Education Reform Act of 1990 made sweeping changes in the way the state's schools are financed, managed, and held accountable for student learning.

Kentucky's state Department of Education administers the public school system. The commissioner of education heads the department and oversees public education. The Kentucky Board of Education appoints the commissioner. Children from age 6 through age 15 must attend school. For the number of students and teachers in Kentucky, see **Education** (table).

Population density

Many of Kentucky's most densely populated regions lie along the Ohio River, which forms the state's northern boundary. The Lexington area of eastern Kentucky is another heavily populated region.



WORLD BOOK map; based on U.S. Census Bureau data.

Libraries. The Lexington Public Library was organized in 1795 as a *subscription library.* Members of this library contributed money to buy books, which they could then use free. The Lexington Public Library is the oldest circulating library west of the Allegheny Mountains. Today, the University of Kentucky Library has the largest collection of books in the state. Transylvania University has old and rare books on medicine, medical botany, and law. The Trappist Library at the Abbey of Our Lady of Gethsemane near New Haven has one of the South's most complete collections of Roman Catholic literature. The Kentucky Historical Society Library in Frankfort is Kentucky's largest historical library.

Museums. The John James Audubon Memorial Museum in Henderson County exhibits prints by John James Audubon—the famous painter of birds—and portraits and stuffed birds. Waveland State Historic Site near Lexington has a museum with exhibits on daily life in Kentucky during the mid-1800's.

Other museums in Kentucky include the Behringer-Crawford Memorial Museum, a natural history museum in Covington; the Kentucky Military History Museum in Frankfort; the International Museum of the Horse in Lexington; the Kentucky Derby Museum and the J. B. Speed Art Museum in Louisville; and the Patton Museum of Cavalry and Armor at Fort Knox.

Universities and colleges

This table lists the universities and colleges in Kentucky that grant bachelor's or advanced degrees and are accredited by the Southern Association of Colleges and Schools.

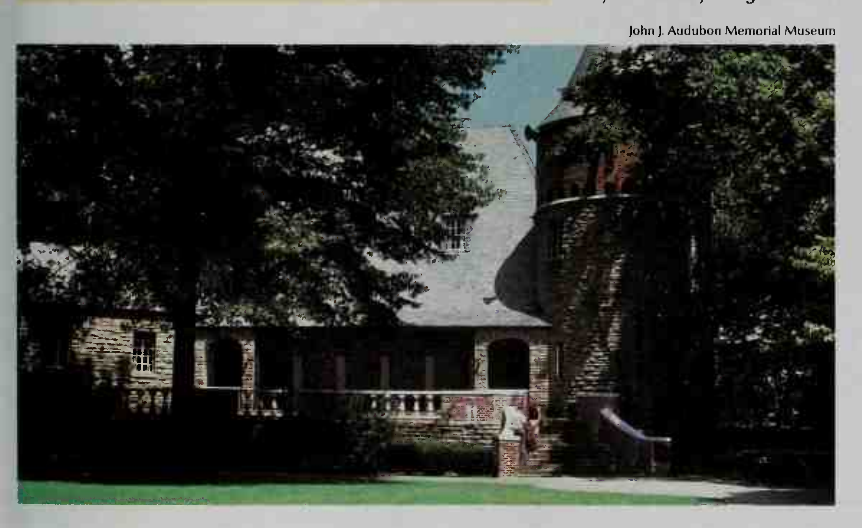
Name	Mailing address
Alice Lloyd College	Pippa Passes
Asbury College	Wilmore
Asbury Theological Seminary	Wilmore
Bellarmine University	Louisville
Berea College	Berea
Brescia University	Owensboro
Campbellsville University	Campbellsville
Centre College	Danville
Clear Creek Baptist Bible College	Pineville
Cumberland College	Williamsburg
Eastern Kentucky University	Richmond
Georgetown College	Georgetown
Kentucky, University of	Lexington
Kentucky Christian College	Grayson
Kentucky State University	Frankfort
Kentucky Wesleyan College	Owensboro
Lexington Theological Seminary	Lexington
Lindsey Wilson College	Columbia
Louisville, University of	Louisville
Louisville Presbyterian Theological Seminary	Louisville
Mid-Continent College	Mayfield
Midway College	Midway
Morehead State University	Morehead
Murray State University	Murray
Northern Kentucky University	Highland Heights
Pikeville College	Pikeville
Southern Baptist Theological Seminary	Louisville
Spalding University	Louisville
Sullivan College	Louisville
Thomas More College	Crestview Hills
Transylvania University	Lexington
Union College	Barbourville
Western Kentucky University	Bowling Green



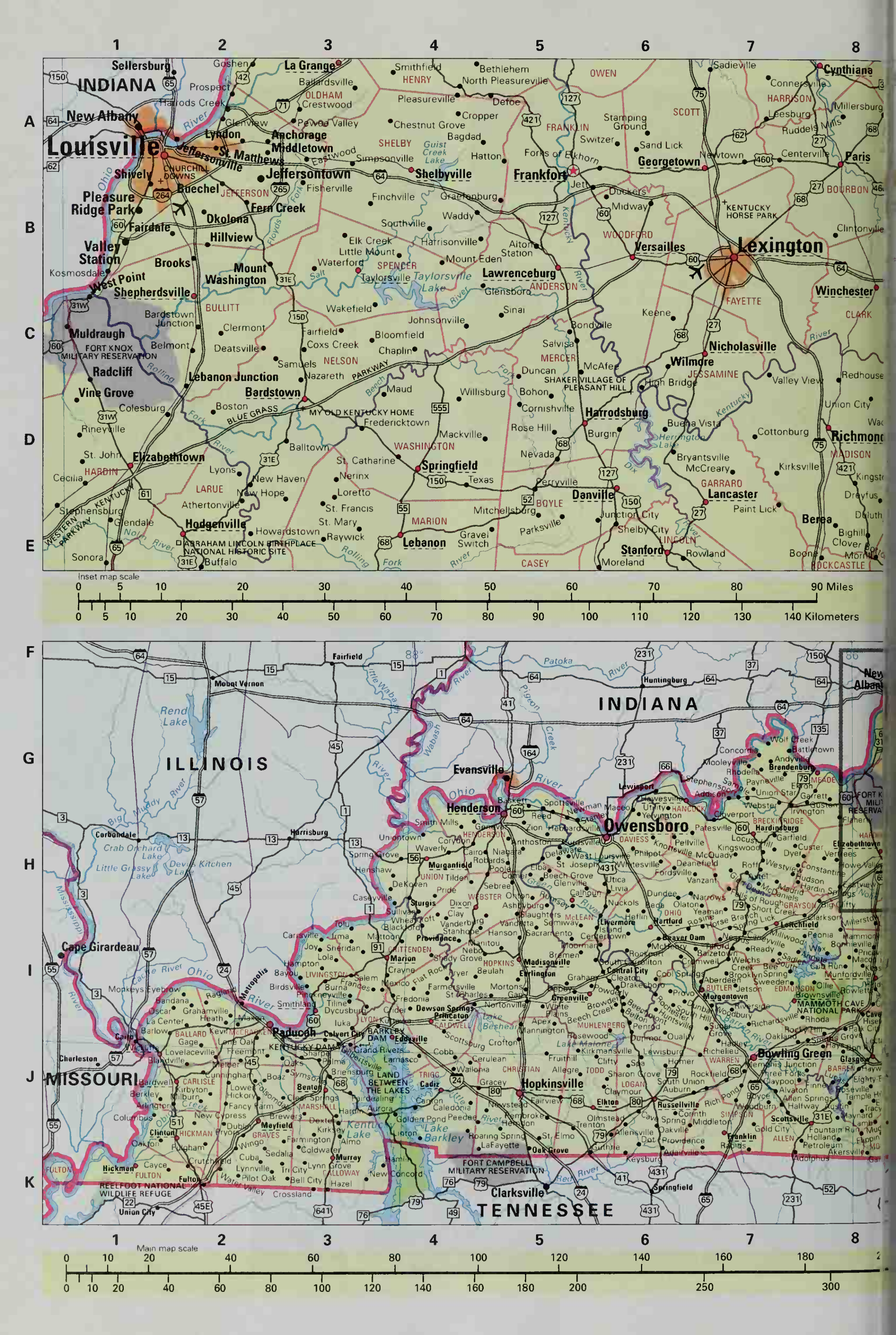
University of Kentucky

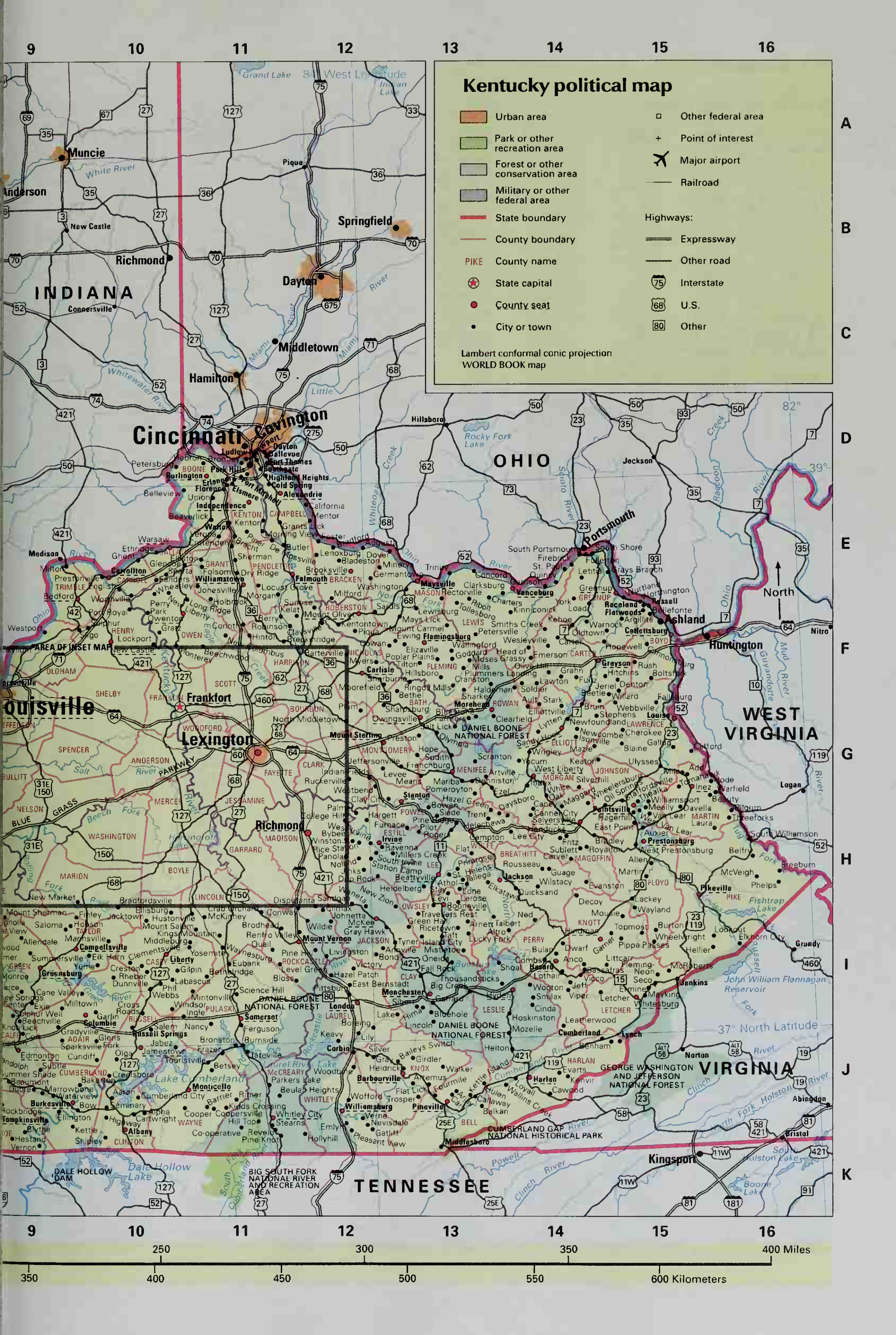
The University of Kentucky's William T. Young Library stands in the central part of the campus at Lexington. The university is Kentucky's largest institution of higher learning.

John J. Audubon Memorial Museum



The John James Audubon Memorial Museum, near Henderson, contains many of the artist's original bird prints, as well as other nature exhibits. Audubon lived in Henderson County in the early 1800's and did many of his bird illustrations there.


INDIANA
Louisville
Lexington
Frankfort
Shelbyville
Georgetown
Versailles
Nicholasville
Richmond
Winchester
Paris
Cynthiana
Elizabethtown
Bardstown
Danville
Harrodsburg
Lawrenceburg
Springfield
Lebanon
Hodgenville
Shepherdsville
Radcliff
FORT KNOX MILITARY RESERVATION
Inset map scale
90 Miles
140 Kilometers
ILLINOIS
INDIANA
MISSOURI
TENNESSEE
Evansville
Henderson
Owensboro
Paducah
Hopkinsville
Bowling Green
Madisonville
Cape Girardeau
Clarksville
FORT CAMPBELL MILITARY RESERVATION
Main map scale



Kentucky political map
Urban area
Park or other recreation area
Forest or other conservation area
Military or other federal area
State boundary
County boundary
PIKE County name
State capital
County seat
City or town
Other federal area
Point of interest
Major airport
Railroad
Highways:
Expressway
Other road
Interstate
U.S.
Other
Lambert conformal conic projection
WORLD BOOK map
INDIANA
OHIO
WEST VIRGINIA
VIRGINIA
TENNESSEE
Muncie
Anderson
Richmond
Dayton
Springfield
Middletown
Hamilton
Cincinnati
Covington
Portsmouth
Ashland
Huntington
Louisville
Frankfort
Lexington
Richmond
Kingsport
Bristol
Abingdon
DANIEL BOONE NATIONAL FOREST
GEORGE WASHINGTON AND JEFFERSON NATIONAL FOREST
CUMBERLAND GAP NATIONAL HISTORICAL PARK
BIG SOUTH FORK NATIONAL RIVER AND RECREATION AREA
DALE HOLLOW DAM
Dale Hollow Lake
Lake Cumberland
John William Flannagan Reservoir
37° North Latitude
39°
82°
North
AREA OF INSET MAP
9 10 11 12 13 14 15 16
A B C D E F G H I J K
250 300 350 400 Miles
350 400 450 500 550 600 Kilometers

Kentucky map index

Metropolitan areas

Cincinnati (Ohio) 1,646,395 (1,223,948 in Ohio; 370,715 in Ky.; 51,732 in Ind.)
Clarksville (Tenn.)-Hopkinsville 207,033 (134,768 in Tenn.; 72,265 in Ky.)
Evansville (Ind.)-Henderson 296,195 (251,366 in Ind.; 44,829 in Ky.)
Huntington (W. Va.)-Ashland 315,538 (139,687 in W. Va.; 113,532 in Ky.; 62,819 in Ohio)
Lexington 479,198
Louisville 1,025,598 (801,018 in Ky.; 224,580 in Ind.)
Owensboro 91,545

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Green Hall I 13
Greensburg° 2,396 I 9
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Greenup° 1,198 F 14
Greenville° 4,398 I 6
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Irvine°	2,843	H 12
Irvington	1,257	G 7
Island	435	I 6
Jackson°	2,490	H 13
Jamestown°	1,624	J 10
Jeff		I 14
Jeffersontown	26,633	A 2
Jeffersonville	1,804	G 12
Jenkins	2,401	I 15
Jetson		I 7
Jett		B 6
Johnsonville		C 4
Jonesville		F 11
Junction City	2,184	E 6
Keaton		G 14
Keavy		J 12
Keene		C 6
Keeneland*	383	G 9
Kelat		F 11
Kenton		E 11
Kenton Vale*	156	D 11
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Kessinger		I 8
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Kevil	574	I 2
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Kings Mountain		I 11
Kingsley*	428	G 9
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Kirbyton		J 2
Kirkmansville		J 6
Kirksey		J 3
Kirksville		D 7
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Knob Lick		J 9
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Lebanon Junction	1,801	C 2
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Mannington		I 5
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Mount Washington	8,485	B 2
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Poplar Plains		F 13
Port Royal		F 10
Powderly	846	I 6
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Prestonville	164	E 10
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Princeton°	6,536	I 4
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Providence	3,611	I 4
Quality		J 6
Quicksand		H 14
Quincy		E 14
Raceland	2,355	F 15
Radcliff	21,961	C 1
Ravenna	693	H 12
Raywick	144	E 3
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Robinson		F 11
Robinswood*		G 9
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Rockport	334	I 6
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Rousseau		H 14
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Rowletts		I 8
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Samuels		C 3
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Sanders	246	E 10
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Sardis	149	F 12
Sassafras		I 14
Science Hill	634	I 11
Scottsville°	4,327	J 8
Sebree	1,558	H 5
Seco		I 15
Sedalia		K 3
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Shady Grove		I 4
Sharkey		F 13
Sharon Grove		J 6
Sharpe		I 3
Sharpsburg	295	G 12
Shelby City		E 6
Shelbyville°	10,085	A 4
Shepherdsville°	8,334	C 2
Sherburne		F 12
Sheridan		I 3
Sherman		E 11
Shively	15,157	B 1
Shoal		I 13
Sibert		I 13
Silver Grove*	1,215	E 11
Simpsonville	1,281	A 3
Skylight		F 9
Slade		H 13
Slaughters	238	H 5
Sligo		F 9
Smilax		I 14
Smith Mills		H 4
Smithfield	102	A 4
Smithland°	401	I 3
Smiths Grove	784	J 8
Soldier		F 14
Somerset°	11,352	J 11
Sonora	350	E 1
South Carrollton	184	I 6
South Irvine		H 12
South Park View*	196	G 9
South Portsmouth		E 14
South Shore	1,226	E 14
South Union		J 7
South Williamson		H 16
Southgate	3,472	D 11
Sparta	230	E 10
Spottsville		H 5
Spring Grove		H 4
Spring Lick		I 7
Springfield°	2,634	D 4
Springlee*	426	G 9
Staffordsville		G 15
Stamping Ground	566	A 6
Stanford°	3,430	E 6
Stanley		H 6
Stanton°	3,029	H 12
Stay		H 13
Stearns†	1,586	K 11
Stephensburg		E 1
Stephensport		G 7
Strathmoor Gardens*		G 9
Strathmoor Manor*	333	G 9
Strathmoor Village*	625	G 9
Sturgis	2,030	H 4
Sublett		H 14
Sullivan		H 4
Sulphur		F 10
Summer Shade		J 9
Summersville		I 9
Sunrise		F 12
Sweeden		I 7
Switzer		A 6
Symsonia		J 3
Tateville		J 11
Taylor Mill*	6,913	E 11
Taylorsville°	1,009	B 3
Temple Hill		J 8
Texas		D 4
Thealka		G 15
Thornhill*	175	G 9
Thousandsticks		I 13
Three Forks		J 8
Threeforks		H 16
Tiline		I 3
Tilton		F 13
Tollesboro		F 13
Tolu		I 3
Tomahawk		G 15
Tompkinsville°	2,660	K 9
Topmost		I 15
Touristville		J 11
Trent		H 13
Trenton	419	J 5
Tri City		K 3
Trosper		J 13
Tyner		I 12
Ulysses		G 15
Union	2,893	E 11
Union City		D 8
Union Star		G 7
Uniontown	1,064	H 4
Upton	654	I 8
Utica		H 6
Valley Station†	22,946	B 1
Valley View		C 7
Vanceburg°	1,731	F 13
Van Lear†		H 15
Verda*		J 14
Verona		E 11
Versailles°	7,511	B 6
Vicco	318	I 14
Victory		I 12
Villa Hills*	7,948	D 11
Vine Grove	4,169	D 1
Viper		I 14
Visalia*	111	E 11
Waco		D 8
Waddy		B 4
Walker		J 13
Wallingford		F 13
Wallins Creek	257	J 13
Wallonia		J 4
Walton	2,450	F 11
Waneta		H 12
Warfield	284	G 15
Warsaw°	1,811	F 10
Washington		F 12
Water Valley	316	K 2
Waterford		B 3
Waverly	297	H 4
Wax		I 8
Wayland	298	H 15
Waynesburg		I 11
Webbs Cross Roads		I 10
Webbville		G 14
Webster		G 7
Wellington*	561	G 9
West Buechel*	1,301	G 9
West Irvine		H 12
West Liberty°	3,277	G 14
West Louisville		H 5
West Point	1,100	C 1
West Van Lear		H 15
Westbend		G 12
Westport		F 9
Westwood*	612	F 9
Westwood*†	4,886	F 15
Wheatcroft	173	I 4
Wheatley		F 10
Wheelersburg		H 14
Wheelwright	1,042	I 15
Whipps Millgate*	415	G 9
White Oak		G 14
White Plains	800	I 5
Whitesburg°	1,600	I 15
Whitesville	632	H 6
Whitley City°†	1,111	J 11
Wickliffe°	794	J 2
Wilder*	2,624	D 11
Wildie		I 12
Wildwood*	247	G 9
Willard		G 14
Williamsburg°	5,143	J 12
Williamsport		G 15
Williamstown°	3,227	F 11
Willisburg	304	D 4
Wilmore	5,905	C 6
Winchester°	16,724	C 8
Winding Falls*		G 9
Windy Hills*	2,480	G 9
Wingo	581	K 2
Winston		H 12
Wofford		J 12
Wolf Creek		G 7
Woodbine		J 12
Woodburn	323	J 7
Woodbury	87	I 7
Woodland Hills*	657	G 9
Woodlawn*	268	D 11
Woodlawn [-Oakdale]*†	4,937	J 3
Woodlawn Park*	1,033	G 9
Wooton		I 14
Worthington	1,673	F 15
Worthville	215	F 10
Wrigley		G 14
Wurtland	1,049	F 14
Yelvington		H 6
Yocum		G 14
Yorktown*		H 15
Yosemite		I 11
Yuma		I 10

*Does not appear on map; key shows general location.
†Census designated place—unincorporated but recognized as a significant settled community by the U.S. Census Bureau.
‡Lexington and Fayette County are consolidated as Lexington-Fayette Urban County.

°County seat.
Places without population figures are unincorporated areas.
Source: 2000 census.

Visitor's guide

Visitors to Kentucky may choose from many scenic attractions, recreational facilities, and historic sites. Mammoth Cave is the state's most famous natural wonder. Cumberland Falls, in southeastern Kentucky, is often called the *Niagara of the South.* Natural Bridge in Daniel Boone National Forest is also popular with tourists. Most Kentucky cities have famous old homes. Several Civil War battlefields can also be visited. Kentucky's lakes offer opportunities for fishing, boating, and other recreational activities.

Horse races are among Kentucky's most important annual events. The most famous race is the Kentucky Derby, held at Churchill Downs in Louisville on the first Saturday in May. The Kentucky Derby, the Preakness in Maryland, and the Belmont Stakes in New York make up the Triple Crown of horse racing in the United States.



Otto Dune, FPG

Mammoth Cave in central Kentucky



Focus on Sports

Kentucky Derby winner at Churchill Downs, Louisville

Places to visit

Following are brief descriptions of some of Kentucky's many interesting places to visit:

Constitution Square, in Danville, is the site where Kentucky's first Constitution was adopted in 1792. Visitors may see replicas of the log courthouse, meeting house, and jail from pioneer days in Kentucky.

Fort Knox is the home of the nation's gold depository and the Patton Museum of Cavalry and Armor. See **Fort Knox.**

Kentucky Derby Museum, in Louisville, is on the grounds of Churchill Downs. The museum includes a collection of Kentucky Derby memorabilia. It also offers a special theater presentation, hands-on displays, and exhibits.

Kentucky Horse Park, in Lexington, is located on a former horse farm. The park includes a museum and offers a tour and a daily parade of more than 40 different breeds of horses. The park also includes the gravesite of Man o' War, perhaps the most famous race horse in American history. The American Saddle Horse Museum is on the park grounds.

Land Between the Lakes, in western Kentucky, is a 170,000-acre (69,000-hectare) peninsula bordered by Lake Barkley and Kentucky Lake. This national recreation area features a living history farm, a herd of bison, a nature center, audio-visuals, a planetarium, and observation areas.

My Old Kentucky Home, in Bardstown, is the home that inspired Stephen Foster to write the famous song, "My Old Kentucky Home," now the state song. This Georgian-style home was completed about 1818. It is furnished in the style of the early 1800's, and hostesses dress as women did during that period.

Shaker Village of Pleasant Hill, near Harrodsburg, is a restored community founded by the Shaker religious group in the early 1800's. Visitors may see more than 30 original buildings and watch artisans create Shaker crafts. Nearby, the Dixie Belle Riverboat offers Kentucky River excursions.

National parks, forests, and historic sites. Mammoth Cave National Park, which includes the world's longest known cave system, is about 90 miles (140 kilometers) south of Louisville. Cumberland Gap National Historical Park lies in southeastern Kentucky and extends into Virginia and Tennessee. Abraham Lincoln Birthplace National Historic Site is near Hodgenville. It includes a cabin representative of Lincoln's birthplace. Part of the Big South Fork National River and Recreation Area lies in southern Kentucky. Daniel Boone National Forest extends northeast from Kentucky's southern boundary.

State parks and historic sites. Kentucky has 49 state parks and state historic sites. For information, write to Travel, Department MR, P.O. Box 2011, Frankfort, KY 40602.



Kentucky Department of Travel Development

My Old Kentucky Home in Bardstown

Annual events

January-April
Land Between the Lakes Eagles Weekend (February); Humana Festival of New American Plays in Louisville (March-April); Rolex Kentucky 3-day Event in Lexington (April); Dogwood Trail Celebration in Paducah (April); Kentucky Derby Festival in Louisville (April-May).

May-August
Kentucky Guild of Artists and Craftsmen's Spring Fair in Berea (May); International Bar-B-Q Festival in Owensboro (May); Glasgow Highland Games in Glasgow (June); Shaker Festival in South Union (late June); Kentucky State Fair in Louisville (August).

September-December
IBMA Bluegrass Fan Fest in Louisville (September); Corn Island Storytelling Festival in Louisville (September); Kentucky Guild of Artists and Craftsmen's Fall Fair in Berea (October); Perryville Battlefield Commemoration (October); North American International Livestock Expo in Louisville (November); Southern Lights at the Kentucky Horse Park (November-December).



Kentucky Department of Travel

Sailing on Kentucky Lake



Kentucky Department of Travel Development

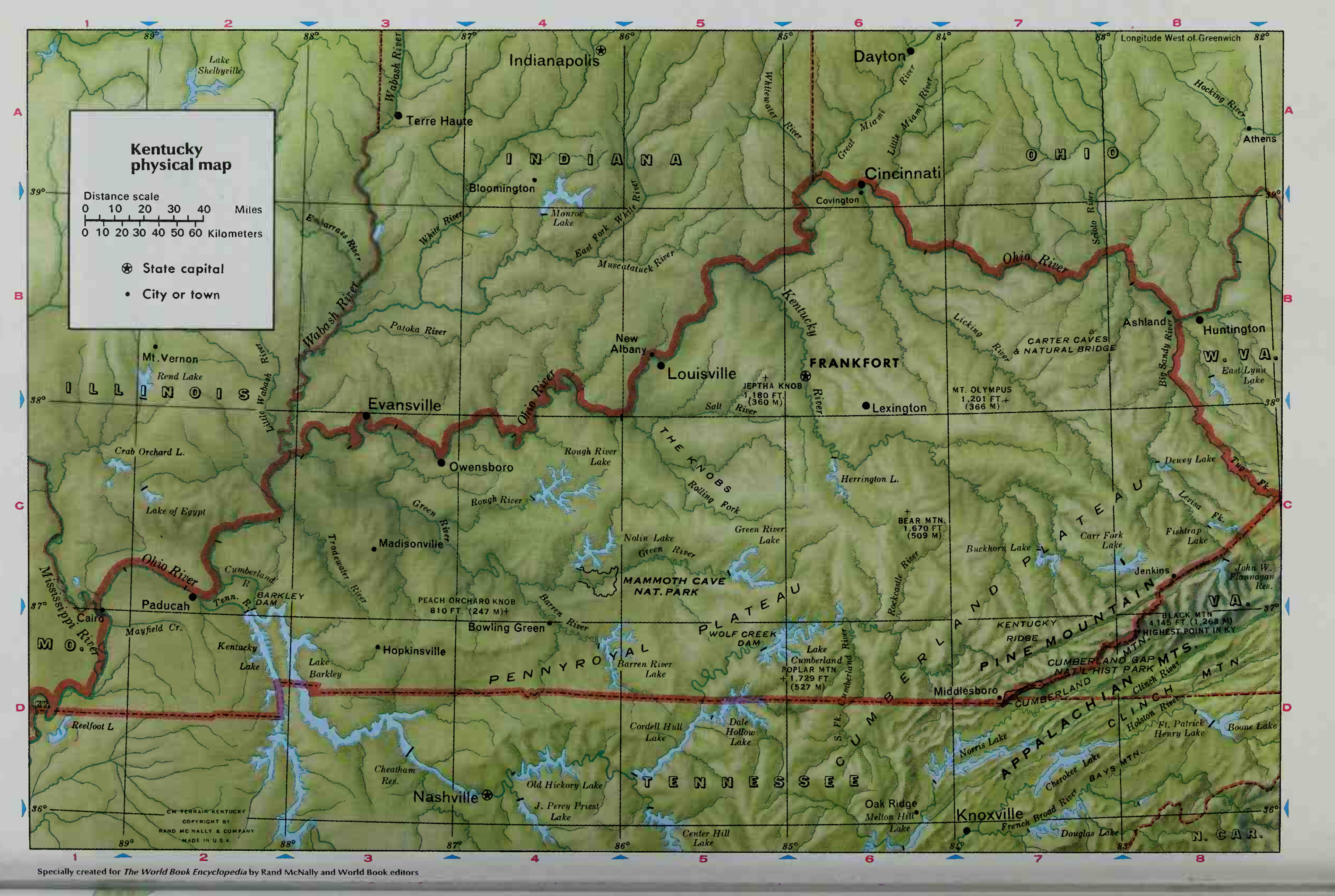


Fort Boonesborough State Park in Richmond



Patton Museum

Patton Museum of Cavalry and Armor at Fort Knox



Specially created for *The World Book Encyclopedia* by Rand McNally and World Book editors

Land regions. Kentucky has five main land regions. They are, from east to west: (1) the Appalachian Plateau, (2) the Bluegrass Region, (3) the Pennyroyal Region, (4) the Western Coal Field, and (5) the Jackson Purchase Region.

The Appalachian Plateau extends from New York to Alabama. In Kentucky, it is also called the *Cumberland Plateau.* This large, triangle-shaped region consists of mountain ridges, plateaus, valleys, rivers, and streams. The mountains are part of the Appalachian Mountains system. The Cumberland and Pine mountains, Kentucky's chief ranges, rise along the southeastern border of the state. Between them lies the Middlesboro Basin. Black Mountain, near Lynch on the southeastern border, rises 4,145 feet (1,263 meters) above sea level. It is the highest point in the state. West of the Cumberland and Pine mountains, the Appalachian Plateau has been divided into a maze of sharp ridges and narrow valleys by eroding streams. Coal is the major product found in this region, which is sometimes called the Eastern Coal Field.

The Bluegrass Region covers the north-central part of the state. The Ohio River borders the region on the north and west. The central part of the region is an area of gently rolling pastures on which horses and cattle graze. Farmers there also grow large crops of corn and tobacco. Kentucky's largest cities, most of its horse farms, and much of its manufacturing are in the Bluegrass Region.

Along the eastern, southern, and western edges of the Bluegrass Region lies an arc of conelike sandstone knobs interlaced by stream flood plains. This area is known as the *Knobs Region.* The light soils of the Knobs Region wear away quickly. Much of the region has been left wooded to hold the soil.

The Pennyroyal Region is also known as the *Mississippi Plateau.* It stretches along Kentucky's southern border from the Appalachian Plateau to Kentucky Lake. Two "arms" of the region extend north to the Ohio River. The Pennyroyal Region is named for a small herb of the mint family that is common in the region. The southern part of the region has flat and rolling farmland with limestone soils. In the center of the region lies a treeless area, which early pioneers called *The Barrens.* The northern Pennyroyal Region rises to rocky ridges and bluffs. Many underground passages run beneath the limestone rock of the Pennyroyal Region. The most fa-



Artstreet

Rivers and valleys cut through the forested hills of the Appalachian Plateau region of eastern Kentucky.

Land regions of Kentucky

BLUEGRASS REGION
Ohio R.
Kentucky R.
APPALACHIAN PLATEAU
WESTERN COAL FIELD
PENNYROYAL REGION
CKSON RCHASE EGION

WORLD BOOK map

Map index

Barkley Dam	C	2
Barren R.	C	4
Barren River Lake	D	4
Bear Mtn.	C	6
Big Sandy R.	B	8
Black Mtn. (highest point in Kentucky)	D	8
Buckhorn Lake	C	7
Carter Caves and Natural Bridge	B	7
Cumberland Gap Nat. Historical Park	D	7
Cumberland Mtn.	D	7
Cumberland Plateau	D	6
Cumberland R.	D	5
South Fork	D	6
Dale Hollow Lake	D	5
Dewey Lake	C	8
Green R.	C	3
Herrington Lake	C	6
Jeptha Knob (peak)	B	5
Kentucky Lake	D	2
Kentucky Ridge	D	7
Kentucky R.	B	6
Knobs (Mts.), The	C	5
Lake Cumberland	D	6
Levisa Fork	C	8
Licking R.	B	7
Mammoth Cave Nat. Park	C	4
Mayfield Creek	D	2
Mississippi R.	C	1
Mt. Olympus	B	7
Nolin Lake	C	4
Ohio R.	C	2
Peach Orchard Knob (peak)	C	4
Pennyroyal Plateau	D	4
Pine Mtn.	D	7
Poplar Mtn.	D	5
Rockcastle R.	C	6
Rolling Fork	C	5
Rough R.	C	4
Rough River Lake	C	4
Salt R.	B	5
Tennessee R.	C	2
Tradewater R.	C	3
Tug Fork	C	8
Wolf Creek Dam	D	5

mous of these passages is Mammoth Cave.

The Western Coal Field is a region of sharply rolling land in northwestern Kentucky. The region is surrounded by the Ohio River on the north, and by the Pennyroyal Region on the east, south, and west. The section along the Ohio River has good farmland. About two-thirds of the state's coal reserves are in this region. The area has been extensively strip-mined.

The Jackson Purchase Region is part of the East Gulf Coastal Plain, which extends from Florida west to Mississippi and north to Illinois. Andrew Jackson helped purchase this region from the Indians in 1818. The region is bordered by Kentucky Lake on the east, the Ohio River on the north, and the Mississippi River on the west. The lowest point in the state is 257 feet (78 meters) above sea level along the Mississippi River.

The Jackson Purchase Region has wide flood plains covered by cypress swamps and oxbow lakes (see **Oxbow lake**). Low hills rise above the plains. A double bend in the Mississippi River separates about 10 square miles (26 square kilometers) of extreme southwestern Kentucky from the rest of the state. This area can be reached by land only by traveling through Tennessee. The large loop in the Mississippi crosses the New Madrid Fault Zone. In 1811 and 1812, severe earthquakes in the zone caused the Mississippi River to flow backward and formed Reelfoot Lake near the Kentucky-Tennessee border.

Rivers, waterfalls, and lakes. The Ohio River forms the entire northern border of the state. Kentucky's border extends across the Ohio River to the northern banks, not to the center of the river. The Mississippi River is the state's western border. The Big Sandy and Tug Fork rivers form the northeastern border.

The principal rivers within Kentucky are the Cumberland, Green, Kentucky, Licking, Salt, and Tennessee. All of these rivers are westward-flowing tributaries of the Ohio River.

The state's largest waterfall in terms of volume of water, Cumberland Falls, drops 68 feet (21 meters) on the Cumberland River near Corbin. Lake Cumberland lies nearby. Many lakes dot the countryside. Dale Hollow Reservoir lies on the Tennessee-Kentucky border. This mountain-rimmed, 30,000-acre (12,000-hectare) lake was created by the Tennessee Valley Authority (TVA). The TVA also created Kentucky Lake, which is 185 miles (298 kilometers) long, in western Kentucky (see **Tennessee Valley Authority**). Other artificially created lakes in Kentucky include Barkley, Barren, Dewey, Herrington, Malone, Nolin, and Rough.

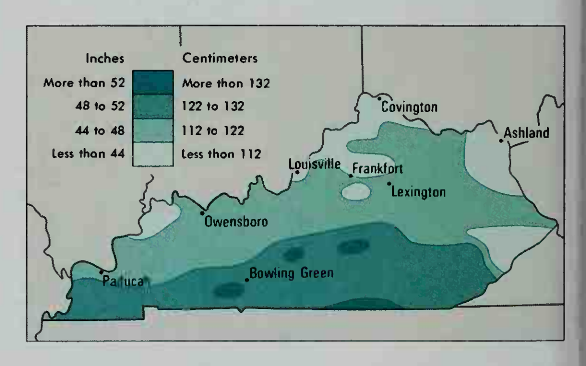
Average monthly weather

Lexington	Temperatures F° High	F° Low	C° High	C° Low	Days of rain or snow
Jan.	43	25	6	−4	13
Feb.	45	27	7	−3	12
Mar.	55	34	13	1	13
Apr.	66	43	19	6	12
May	75	53	24	12	12
June	84	62	29	17	12
July	87	66	31	19	11
Aug.	86	64	30	18	10
Sept.	81	58	27	14	8
Oct.	69	47	21	8	8
Nov.	54	36	12	2	10
Dec.	45	27	7	−3	12

Louisville	Temperatures F° High	F° Low	C° High	C° Low	Days of rain or snow
Jan.	44	26	7	−3	12
Feb.	46	28	8	−2	10
Mar.	56	35	13	2	12
Apr.	67	45	19	7	12
May	77	54	25	12	11
June	85	63	29	17	11
July	89	67	32	19	9
Aug.	88	65	31	18	9
Sept.	82	58	28	14	8
Oct.	71	47	22	8	8
Nov.	55	36	13	2	9
Dec.	46	28	8	−2	11

Average yearly precipitation

Spring is the rainiest time of the year in Kentucky and the autumn is the driest. Precipitation is highest in the southern part of the state. The southeast receives the heaviest snowfall.



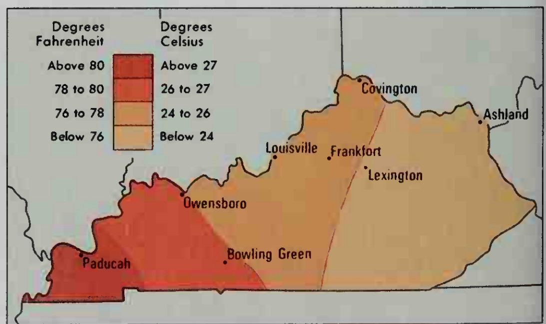
Average January temperatures

Kentucky has moist, cool winters with much of the state averaging above freezing. The warmest temperatures are found along the length of the southern portion of the state.



Average July temperatures

The western portion of Kentucky has the warmest temperatures during the summer. The temperatures get increasingly cooler toward the eastern part of the state.



WORLD BOOK maps

Plant and animal life. Forests in Kentucky cover nearly half the state. The thickest forests are in the Appalachian Plateau and in the Knobs Region of the Bluegrass. Most of the trees are hardwoods. The most common ones include the ash, beech, hickory, maple, red oak, yellow-poplar, walnut, and white oak. The most common softwood trees include the hemlock, redcedar, shortleaf pine, Virginia pine, and white pine.

The Appalachian Plateau has a wide variety of flowers and shrubs. Some of the more common ones are blueberries, dogwoods, ferns, huckleberries, mountain laurels, mountain magnolias, redbuds, rhododendrons, serviceberries, wild azaleas, and wild plums. Smaller woodland plants in the Appalachian Plateau include the dogtooth violet, jack-in-the-pulpit, May apple, snakeroot, trillium, and wild iris. Such grasses as Bermuda grass, bluegrass, broom sedge, crab grass, and fescue flourish in most parts of the state. The Knobs Region and the forests of the Western Coal Field have anemones, buttercups, spring beauties, toothworts, and other wild flowers. The Bluegrass and Pennyroyal regions of Kentucky bloom with goldenrods, ironweeds, daisies, and violets. Pennyroyals flourish in the Pennyroyal Region, in the central part of the state.

Animal life in Kentucky's fields and forests includes chipmunks, foxes, minks, muskrats, opossums, rabbits, raccoons, squirrels, and woodchucks. The most common birds include American egrets, blue and white herons, cardinals, crows, doves, grackles, grouse, kingfishers, nighthawks, quail, wild ducks, wild geese, and woodpeckers. More than 200 kinds of fish swim in Kentucky's waters. They include bass, bluegill, buffalo fish, carp, catfish, crappies, gar, gizzard shad, muskellunge, rockfish, and walleye.

Climate. Kentucky has a warm, rainy climate with generally warm summers and cool winters. January temperatures average 38 °F (3 °C) in western Kentucky, 34 °F (1 °C) in the central portion, and 39 °F (4 °C) in the east. In July, temperatures average 79 °F (26 °C) in the west, 77 °F (25 °C) in central Kentucky, and 76 °F (24 °C) in the east. Kentucky's record high temperature, 114 °F (46 °C), was recorded at Greensburg on July 28, 1930. The state's lowest temperature, −37 °F (−38 °C), was recorded at Shelbyville on Jan. 19, 1994.

Kentucky's yearly *precipitation* (rain, melted snow, and other forms of moisture) averages about 46 inches (117 centimeters). Spring is the rainiest time of year, and autumn is the driest. Precipitation in southern Kentucky averages from 48 to 52 inches (122 to 132 centimeters) a year. Northern Kentucky has an average of 40 to 44 inches (100 to 112 centimeters) of precipitation a year. Snowfall averages from 6 to 10 inches (15 to 25 centimeters) a year in the southwest, and from 15 to 20 inches (38 to 51 centimeters) in the southeast.

Economy

Service industries, taken together, account for the largest portion of Kentucky's *gross state product*—the total value of all goods and services produced in a state in a year. However, manufacturing is Kentucky's single most important economic activity. It accounts for over a fourth of the gross state product. The chief centers of manufacturing in Kentucky are located in Louisville and Lexington.

Huge coal deposits provide Kentucky with billions of dollars in income. Farming is important in the Bluegrass, Pennyroyal, and Purchase regions. Burley tobacco is Kentucky's most valuable farm product. Visitors to Kentucky spend about $8 billion annually in the state.

Natural resources of Kentucky include rich soils and large coal deposits.

Soil. More than half of Kentucky has soils that are good for farming. The Bluegrass Region has fertile limestone soils. The area of the Bluegrass around Fayette, Jessamine, Scott, and Woodford counties has especially rich soil. The Jackson Purchase and Western Coal Field regions have *loess* soils that are generally well-suited for farming (see **Loess**). The Knobs Region has shallow, poorly drained soils that are not as suitable for farming. Soils found in the Appalachian Plateau are the poorest in the state.

Minerals. Kentucky's most important mined resource is *bituminous* (soft) coal. It is found in two large coal fields that cover about 40 percent of the state. Petroleum and natural gas are produced in the western, south-central, and eastern portions of the state. Limestone is Kentucky's most important mined product not used as fuel. Other mined products found in the state include clays, lead, sand and gravel, and zinc.

Service industries account for the largest part of Kentucky's gross state product. Most of the service industries are located in the state's metropolitan areas.

Kentucky's leading service industries are (1) community, business, and personal services and (2) wholesale and retail trade. Both industry groups contribute an equal portion of the gross state product.

Community, business, and personal services in Kentucky include private health care, hotels, law firms, and

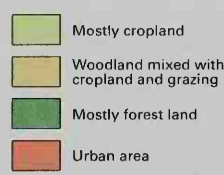
Production and workers by economic activities

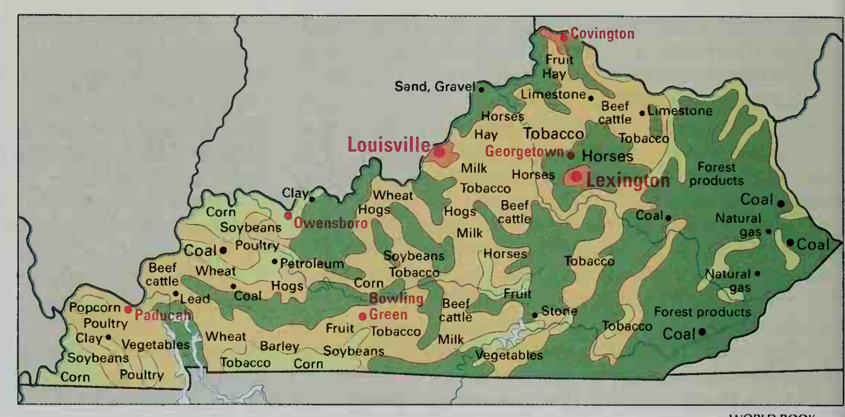
Economic activities	Percent of GSP* produced	Employed workers: Number of people	Employed workers: Percent of total
Manufacturing	27	329,700	15
Community, business, & personal services	16	577,000	26
Wholesale & retail trade	16	486,300	21
Government	14	329,100	15
Finance, insurance, & real estate	11	114,300	5
Transportation, communication, & utilities	8	118,100	5
Construction	4	130,300	6
Agriculture	2	141,200	6
Mining	2	26,100	1
Total	100	2,252,100	100

*GSP = gross state product, the total value of goods and services produced in a year.
Figures are for 1998.
Sources: *World Book* estimates based on data from U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics.

Economy of Kentucky

This map shows the economic uses of land in Kentucky and where the leading farm, mineral, and forest products are produced. Major manufacturing centers are shown in red.





WORLD BOOK map

repair shops. Major medical centers are located in Lexington and Louisville.

The wholesale trade of coal, food products, motor vehicles, petroleum products, and tobacco is important in Kentucky. Leading types of retail businesses include automobile dealerships, gas stations, grocery stores, and restaurants.

Government ranks third among service industries in Kentucky in terms of the gross state product. Government services include the operation of public schools and hospitals, and military bases. The largest centers of civilian government services are Frankfort, Lexington, and Louisville. Military services are centered in Christian and Hardin counties. Part of the Fort Campbell Military Reservation, a United States Army base, lies in Christian County. Part of the Army's Fort Knox Military Reservation lies in Hardin County.

Finance, insurance, and real estate is the fourth most important service industry in Kentucky. Louisville is the state's leading financial center. Many major banks and insurance companies have large branch offices there. Real estate is important in the state's major cities because of the large sums of money involved in the buying and selling of homes and other property.

Transportation, communication, and utilities rank fifth in importance among service industries in Kentucky. Many shipping and trucking companies have large operations in Louisville. The state's railroads receive much business from coal companies. Telephone companies are the most important part of the communications sector. Utilities supply electricity, gas, and water service. More information about transportation and communication appears later in this section.

Manufacturing. Goods manufactured in Kentucky have a *value added by manufacture* of approximately $40 billion annually. Value added by manufacture is the increase in value of raw materials after they become finished goods.

The production of transportation equipment is Kentucky's leading manufacturing activity in terms of value added by manufacture. Motor vehicles and motor vehicle parts are the main kinds of transportation equipment made in the state. Louisville is one of the nation's leading centers of truck production. Bowling Green and Georgetown have large automobile plants. Many Kentucky cities have plants that produce motor vehicle parts. Other transportation equipment made in Kentucky includes aircraft parts, boat trailers, and railroad cars.

Chemicals rank second among the state's manufactured products. Chemicals produced in the state include cleaning and pharmaceutical products, paints, and industrial chemicals. Calvert City produces a variety of chemicals, including industrial gases. Large chemical plants are also located in Brandenburg, Carrolton, Catlettsburg, and Paducah.

Tobacco products rank third in terms of value added by manufacture. Cigarettes are manufactured in the Louisville area.

Machinery is the fourth-ranking manufactured product in Kentucky. Plants in Louisville produce elevators, air filtration equipment, and conveyors. Maysville and Glasgow factories make ball and roller bearings for machines. Factories in Lexington manufacture heating and air-conditioning equipment, and typewriters and printers. Somerset produces compressors for refrigeration equipment.

Processed foods and beverages rank fifth in terms of value added. Louisville is the main food processing center. The state leads the nation in the production of bourbon whiskey.

Other products manufactured in Kentucky include electrical equipment, fabricated metal products, primary metals, and rubber and plastics products. Household appliances are manufactured in Louisville. The state's fabricated metal products include sheet metal, hardware, springs, and wire. Steel and aluminum are the leading primary metals manufactured in Kentucky. Polystyrene foam and rubber tires and hoses are among Kentucky's leading plastics and rubber products.

Mining. Coal is, by far, the most valuable mined product of Kentucky. The state ranks among the leading U.S. coal producers. Coal is mined in two widely separated fields in Kentucky—the Western Coal Field and the Appalachian Plateau, also called the Eastern Coal Field. Hopkins, Union, and Webster counties are the chief coal-producing counties in the Western Coal Field. Harlan, Martin, and Pike counties produce the most coal in the Appalachian Plateau. About 60 percent of Kentucky's coal comes from underground mines. The rest of the coal comes from surface mines.

The other mined products in Kentucky include natural gas, petroleum, and limestone. Most of the natural gas

comes from the Appalachian Plateau. The Western Coal Field supplies most of Kentucky's petroleum. Many parts of the state quarry limestone, which is used to make cement and roadbeds.

Agriculture. Farmland covers almost three-fifths of Kentucky's land area. The state has about 91,000 farms.

Livestock and livestock products account for about half of Kentucky's farm income. The breeding and selling of thoroughbred horses are Kentucky's most valuable source of livestock income. Beef cattle account for almost as much income. Most of the thoroughbred horses come from the bluegrass pastures that are located near Lexington. Cattle are raised throughout the state except on the Appalachian Plateau. Other important livestock products in Kentucky are milk, hogs, *broilers* (chickens from 5 to 12 weeks old), and eggs. The most important livestock centers in the state are Bourbon, Fayette, Graves, Scott, and Woodford counties.

Crops of Kentucky provide about half of the state's farm income. Tobacco is the state's most valuable farm product. Kentucky leads the states in growing burley tobacco, and it ranks second only to North Carolina in total tobacco production. Farmers in nearly every Kentucky county raise burley tobacco. Dark tobacco is grown in the southern and southwestern parts of Kentucky, in an area sometimes called the *Black Patch.*

Other leading crops in Kentucky include corn, soybeans, and wheat. The corn is used mainly as livestock feed. So are the barley, hay, and grain sorghum grown in the state. Vegetables and fruits are grown in most parts of the state. Clinton, Graves, and Wayne counties are leading tomato producers. The leading apple-growing areas are near Bowling Green, Liberty, Somerset, and Walton. Important popcorn-producing areas include Calloway, Marshall, and McCracken counties.

Electric power. Coal-burning plants produce about 95 percent of Kentucky's electric power. Hydroelectric utilities produce most of the rest. Sources of hydroelectric power in the state include Barkley Dam, Kentucky Dam, Ohio Falls Station, and Wolf Creek Dam. Plants that burn natural gas or petroleum generate only a small amount of the state's electric power.

Transportation. Most early transportation routes in Kentucky were waterways and small trails. The Wilderness Road, which Daniel Boone cut through the Cumberland Gap in 1775, was Kentucky's first road. In 1815, the steamboat *Enterprise* traveled from New Orleans to Louisville. It was the first steamboat to travel up the Mississippi and Ohio rivers. Soon, steamboats were regularly carrying passengers and cargo along both rivers.

Kentucky's first railroad, the Lexington and Ohio, began operating in 1832. It later became a part of the Louisville and Nashville Railroad, and it is now part of the CSX Railroad. Many other railroads were built in the late 1800's.

Most of the early roads in Kentucky were privately owned. Travelers had to pay tolls to use them. A state highway commission was created in 1912. In 1914, the legislature approved a system of free roads throughout the state. Today, Kentucky has about 73,000 miles (117,000 kilometers) of roads and highways.

The Mississippi River, which forms Kentucky's western border, links the state with the Gulf of Mexico. Many barges travel to and from the Mississippi River on the Ohio River, which forms Kentucky's northern border. The Tennessee River, which flows through western Kentucky, is linked to the Gulf of Mexico by the Tennessee-Tombigbee Waterway and the Tombigbee and Mobile rivers.

About 15 rail lines provide freight service in Kentucky. Passenger trains serve several cities. The state's busiest airport is the Cincinnati/Northern Kentucky International Airport, located in Boone County near the Ohio border. Louisville and Lexington also have large airports.

Communication. The *Kentucky Gazette,* Kentucky's first newspaper, was established in Lexington in 1787 by John Bradford. The first successful newspaper in the state was the *Advertiser* of Louisville. The *Advertiser* was founded in 1818. The state's first radio station, WHAS, began broadcasting in Louisville in 1922. The first Kentucky television station, WAVE-TV, began telecasting in Louisville in 1948.

Today, Kentucky has about 160 newspapers, about 20 of which are dailies. Leading papers include *The Courier-Journal* of Louisville, the *Lexington Herald-Leader, The Kentucky Post* of Covington, the *Owensboro Messenger-Inquirer,* and the *Paducah Sun.* The state has about 320 radio stations and 15 television stations. Cable television systems and Internet providers serve many of Kentucky's communities.



William Strode, Woodfin Camp, Inc.

A Kentucky tobacco farmer harvests tobacco plants that have been cut and left to dry in a field. Tobacco is grown throughout Kentucky and is the state's leading crop.



Sheldan Photoworks, FPG

A coal-fueled power plant operates in the Western Coal Field region of Kentucky. Most of Kentucky's electric power is produced from coal. Kentucky is a leading coal-producing state.

Government

Constitution. Kentucky has had the same Constitution since 1891. Earlier constitutions were adopted in 1792, 1799, and 1850.

Constitutional *amendments* (changes) may be proposed by the state legislature or by a constitutional convention. An amendment must be approved by three-fifths of the members of each house. The amendment must then be approved in a general election by a majority of the people voting on the issue. Before a constitutional convention can meet, it must be approved by a majority of each house of the legislature. It also must be approved by the next legislature elected to office. Finally, a constitutional convention must be approved by a majority of the people voting on the proposition. The number of approving votes must equal at least a fourth of the number of voters who took part in the most recent general election.

Executive. Kentucky's governor and lieutenant governor serve four-year terms. The governor appoints the adjutant general, the secretaries of the 13 units called *program cabinets*, and the heads of departments within those cabinets. Top elected officials include the attorney general, auditor of public accounts, commissioner of agriculture, secretary of state, and treasurer. Each official is elected to a four-year term. These elected officials and the program cabinet secretaries and department heads make up the governor's general cabinet.

Legislature of Kentucky is called the General Assembly. It consists of a 38-member Senate and a 100-member House of Representatives. Voters in each of the state's 38 senatorial districts elect one senator. Voters in each of the 100 representative districts elect one representative. Senators serve four-year terms, and representatives two-year terms.

In even-numbered years, legislative sessions begin in January and last 60 working days or until April 15, whichever comes first. In odd-numbered years, the legislative sessions are shorter. They begin in February, after a January organizational gathering. They last 30 working days and must be completed by March 30.

Courts. Kentucky's highest court is the state Supreme Court. This court has a chief justice and six associate justices. The next highest court is the Court of Appeals, with 14 judges. The judges of both courts are elected to eight-year terms. The justices of each court select one judge to serve a four-year term as chief justice.

Kentucky's chief trial courts are its circuit courts. The state has 56 judicial circuits. The number of circuit court judges in a circuit depends on the circuit's population. Some circuits have only one judge. Circuit court judges are elected to eight-year terms. The court system includes 59 district courts, which are also used as trial courts. District court judges serve four-year terms.

Local government. Each of Kentucky's 120 counties, except Fayette County, is managed by a fiscal court. The county judge executive presides over the fiscal court. A mayor is the top official of the Fayette County government.

Cities in Kentucky are divided into six classes, based on population. First-class cities have 100,000 or more people. Second-class cities have between 20,000 and 99,999 people. Third-class cities have from 8,000 to

The governors of Kentucky

	Party	Term
Isaac Shelby	*Dem.-Rep.	1792-1796
James Garrard	Dem.-Rep.	1796-1804
Christopher Greenup	Dem.-Rep.	1804-1808
Charles Scott	Dem.-Rep.	1808-1812
Isaac Shelby	Dem.-Rep.	1812-1816
George Madison	Dem.-Rep.	1816
Gabriel Slaughter	Dem.-Rep.	1816-1820
John Adair	Dem.-Rep.	1820-1824
Joseph Desha	Dem.-Rep.	1824-1828
Thomas Metcalfe	†Nat. Rep.	1828-1832
John Breathitt	Democratic	1832-1834
James T. Morehead	Nat. Rep.	1834-1836
James Clark	Whig	1836-1839
Charles A. Wickliffe	Whig	1839-1840
Robert P. Letcher	Whig	1840-1844
William Owsley	Whig	1844-1848
John J. Crittenden	Whig	1848-1850
John L. Helm	Whig	1850-1851
Lazarus W. Powell	Democratic	1851-1855
Charles S. Morehead	Know-Nothing	1855-1859
Beriah Magoffin	Democratic	1859-1862
James F. Robinson	Union	1862-1863
Thomas E. Bramlette	Union	1863-1867
John L. Helm	Democratic	1867
John W. Stevenson	Democratic	1867-1871
Preston H. Leslie	Democratic	1871-1875
James B. McCreary	Democratic	1875-1879
Luke P. Blackburn	Democratic	1879-1883
J. Proctor Knott	Democratic	1883-1887
Simon B. Buckner	Democratic	1887-1891
John Young Brown	Democratic	1891-1895
William O. Bradley	Republican	1895-1899
William S. Taylor	Republican	1899-1900
William Goebel	Democratic	1900
J. C. W. Beckham	Democratic	1900-1907
Augustus E. Willson	Republican	1907-1911
James B. McCreary	Democratic	1911-1915
Augustus O. Stanley	Democratic	1915-1919
James D. Black	Democratic	1919
Edwin P. Morrow	Republican	1919-1923
William J. Fields	Democratic	1923-1927
Flem D. Sampson	Republican	1927-1931
Ruby Laffoon	Democratic	1931-1935
Albert B. Chandler	Democratic	1935-1939
Keen Johnson	Democratic	1939-1943
Simeon S. Willis	Republican	1943-1947
Earle C. Clements	Democratic	1947-1950
Lawrence W. Wetherby	Democratic	1950-1955
Albert B. Chandler	Democratic	1955-1959
Bert T. Combs	Democratic	1959-1963
Edward T. Breathitt	Democratic	1963-1967
Louie B. Nunn	Republican	1967-1971
Wendell Ford	Democratic	1971-1974
Julian M. Carroll	Democratic	1974-1979
John Y. Brown, Jr.	Democratic	1979-1983
Martha Layne Collins	Democratic	1983-1987
Wallace G. Wilkinson	Democratic	1987-1991
Brereton C. Jones	Democratic	1991-1995
Paul E. Patton	Democratic	1995-

*Democratic-Republican. †National Republican.

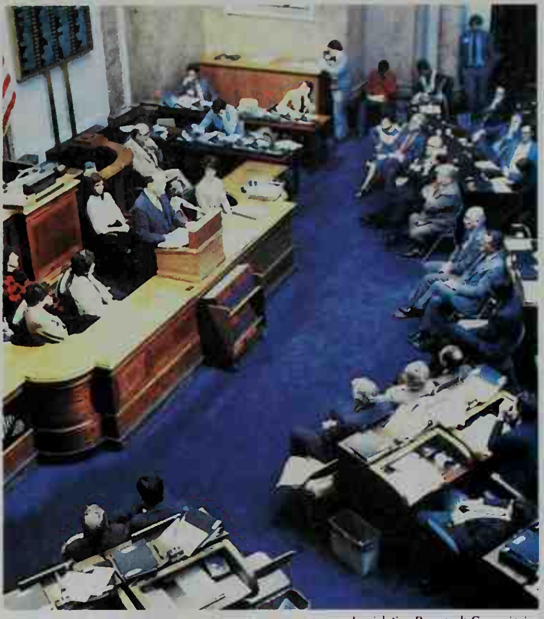
19,999 people. Fourth-class cities have from 3,000 to 7,999 people. Fifth-class cities have between 1,000 and 2,999 people. Sixth-class cities have populations under 1,000 people.

The legislature determines the form of government Kentucky cities may have. First-class cities must use the mayor-alderman form of government. Second- through sixth-class cities may use the mayor-council, commission, or city-manager form.

Revenue. Taxes account for more than half of the state government's *general revenue* (income). More than a fifth of the revenue comes from federal grants and U.S. government programs. Personal income tax and a general sales tax account for most of the tax revenue. Taxes on corporate income, coal production, and motor fuels are also important. Other sources of revenue include government services and a state lottery.

Politics. Kentucky has traditionally favored Democrats. Only two Republicans have served as governor since 1931. But Kentucky voters began electing an increasing number of Republicans to Congress and to the state legislature during the mid-1900's.

Democrats carried Kentucky in every presidential election from 1932 through 1952. Since then, Republicans have won the state's electoral votes twice as often as Democrats have. For Kentucky's electoral votes and voting record in presidential elections, see **Electoral College** (table).



Legislative Research Commission

Kentucky's General Assembly meets in the State Capitol in Frankfort. Kentucky's legislature consists of a House of Representatives and a Senate.

History

Early days. As long as 12,000 years ago, Indians probably lived in the forests of what is now western Kentucky. Early European explorers found many different tribes in the Kentucky region. These tribes included the Cherokee, Delaware, Iroquois, and Shawnee.

Exploration and settlement. Several English and French explorers probably visited the Kentucky region during the late 1600's and early 1700's. The English explorers included Colonel Abram Wood, Gabriel Arthur, and John P. Salling (also spelled Salley). Among the French explorers were Father Jacques Marquette, Louis Jolliet, and Robert Cavelier, Sieur de La Salle.

In 1750, Thomas Walker, a pioneer scout, entered Kentucky through the Cumberland Gap and made the first thorough exploration of the eastern part of the region. Daniel Boone explored eastern Kentucky in 1767. He came to Kentucky again in 1769 and then spent two years in the Bluegrass Region. In 1773, Boone led a group of settlers into Kentucky, but Indians forced them to turn back. Simon Kenton explored northeastern Kentucky in 1773 and 1774. In 1774, James Harrod led a group of colonists into Kentucky from Pennsylvania. They established Harrodsburg, Kentucky's first permanent white settlement. Boone led another group of settlers through the Cumberland Gap into Kentucky in 1775. His route became known as the Wilderness Road. Boone settled along the Kentucky River and called his site Boonesborough.

Mountains and forests stood between the settlers and the protection of the American colonies. After the Revolutionary War began in 1775, Indians friendly to the British made repeated attacks on Kentuckians. The colonies could give the settlers only a little help. Boone, Kenton, and George Rogers Clark successfully defended Kentucky against attacks by Indians.

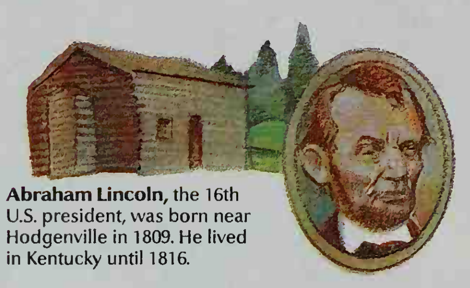
In 1776, Kentucky became a county of Virginia. Many Virginians moved into the Kentucky region. Indians supplied with British weapons continued to attack the settlers. In 1778, George Rogers Clark led a small band of men against three British-controlled settlements northwest of Kentucky. Clark captured the settlements and cut off British supplies to the Indians. Indian attacks against the settlements then became less frequent.

Statehood. In May 1792, Kentuckians adopted a constitution in preparation for statehood. On June 1, 1792, Kentucky joined the Union as the 15th state. Isaac Shelby, a Revolutionary War hero, became the first governor. Frankfort was made the capital.

In 1798, Congress passed a series of acts known as the Alien and Sedition Acts. These acts gave the president special powers against people born in other countries and people who tried to create discontent with the government. Kentuckians opposed these acts, as did many other Americans including Vice President Thomas Jefferson and Virginia Representative James Madison. Kentucky adopted strong resolutions, written by Jefferson, declaring the Alien and Sedition Acts unconstitutional. Jefferson's opposition to the acts helped him to be elected president of the United States.

Progress as a state. Farming had always been important to settlers in the Kentucky region. After Kentucky became a state, its population increased and more areas of farmland were opened to settlement. Early in the 1800's, horse breeders recognized the superior feeding

Historic Kentucky



Abraham Lincoln, the 16th U.S. president, was born near Hodgenville in 1809. He lived in Kentucky until 1816.





Fort Knox is the site of the United States Army Armor Center. The Army created its first armored force there in 1940. The post was originally established as Camp Knox in 1918.

Daniel Boone led a group of colonists from North Carolina through the Cumberland Gap and into Kentucky in 1775. Boone and the colonists founded Boonesborough, Kentucky's second white settlement, near present-day Lexington.



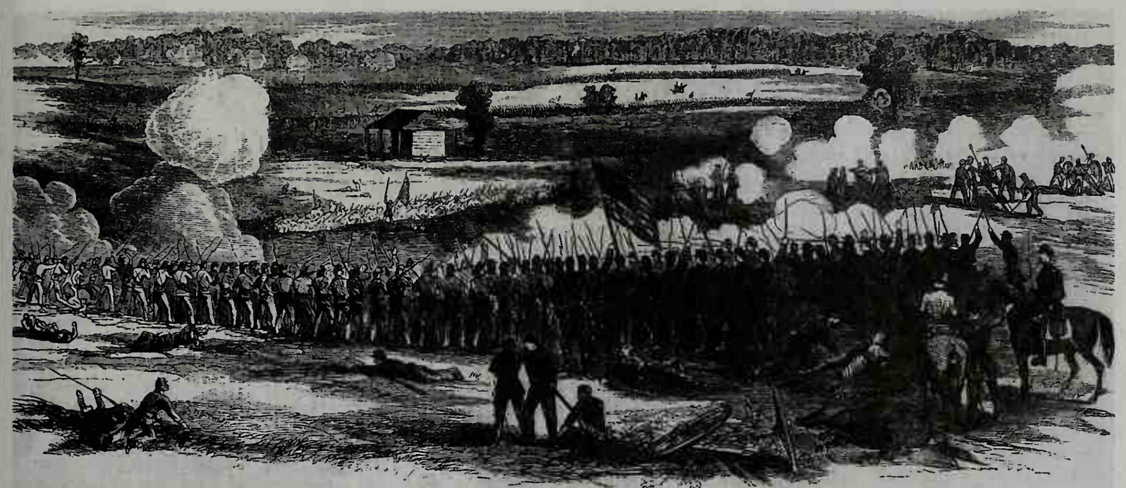
The Tobacco Wars took place in western and central Kentucky from 1904 to 1909. Farmers unsuccessfully fought against low prices, mounting debt, and the tobacco monopoly.

The Kentucky Dam, on the Tennessee River near Gilbertsville, was finished in 1944. It created vast Kentucky Lake.

WORLD BOOK illustrations by Kevin Chadwick

Important dates in Kentucky

1750 Thomas Walker made the first thorough exploration of what is now Kentucky.
1767 Daniel Boone made his first journey to Kentucky.
1774 Harrodsburg, Kentucky's first permanent white settlement, was founded.
1775-1783 Frontier leaders defended Kentucky settlements against Indian attacks during the Revolutionary War.
1792 Kentucky became the 15th state on June 1.
1798-1799 The Kentucky and Virginia Resolutions declared the federal Alien and Sedition Acts unconstitutional.
1861-1865 Kentucky stayed in the Union in the American Civil War.
1900 Governor William Goebel was assassinated, and a civil war almost broke out.
1904-1909 Farmers in western and central Kentucky fought the tobacco monopoly in the Tobacco Wars.
1914 The state legislature authorized a statewide system of roads.
1936 The U.S. Treasury established a gold vault at Fort Knox.
1955 Kentucky lowered its voting-age requirement to 18.
1963 The state legislature reapportioned the Senate and House of Representatives.
1969 The Tennessee Valley Authority completed its largest steam generating plant, at Paradise.
1990 Kentucky launched reform of its public school system with the passage of the Education Reform Act.
1992 Voters approved an amendment allowing reelection of state officers to a second consecutive term.
2000 Voters approved an amendment allowing the state legislature to meet every year.



The Battle of Perryville, Kentucky engraving by Mr. H. Mosler (Granger Collection)

The Battle of Perryville, fought in central Kentucky on Oct. 8, 1862, was the state's most important Civil War battle. Both sides suffered heavy losses, and neither side won. The Confederates retreated into neighboring Tennessee, and Kentucky came under Union control. The battlefield is now a state historic site.

qualities of pastures in central Kentucky. This area became the center of Kentucky horse breeding. The use of steamboats in the early 1800's helped the state's farms to prosper. Farmers shipped huge cargoes of crops and livestock products to markets along the Ohio and Mississippi rivers. Hemp, used for making rope, was an important crop in Kentucky. In the mid-1800's, Kentucky produced nearly all the nation's hemp.

Tobacco farming became important after 1830. By the 1860's, Kentucky led the nation in tobacco production. A market for whiskey in New Orleans, down the Mississippi River, aided the growth of Kentucky agriculture and manufacturing. Kentucky farmers raised corn, rye, and other grains used in manufacturing alcoholic beverages. Whiskey production became an important industry. The use of slaves was central to Kentucky's agricultural economy, and slavery flourished in the Bluegrass Region.

The Civil War began in 1861. Kentucky hoped to stay neutral. The state had social, economic, and political ties with both the North and the South. But Confederate troops invaded western Kentucky in the summer of 1861. Then Union troops under General Ulysses S. Grant occupied Paducah. In September 1861, the state legislature created a military force to drive the Confederates out and preserve the state's neutrality. This action placed Kentucky on the Union side. But many Kentuckians favored the South. Members of some families fought each other in battle. About 75,000 Kentuckians fought for the Union, and about 35,000 fought for the Confederacy.

On Jan. 19, 1862, Union troops won an important victory at Mill Springs in southern Kentucky. This victory opened Eastern Tennessee to the Union forces. In August 1862, the Confederates won a battle at Richmond, Kentucky. Both sides suffered heavy losses in the Battle of Perryville in October 1862. The Confederate troops finally retreated from Perryville into Tennessee.

After the Civil War ended in 1865, Kentucky became strongly sympathetic toward the South. There were several reasons for this attitude. The government freed slaves without paying their owners. Soldiers remained in the state longer than the people thought necessary. Black troops were sent to sections that had supported the South. Kentuckians began to feel as though they had lost the war, rather than helped win it.

Postwar depression. Kentucky was affected by the economic depression that hit the South after the Civil War. Southern markets could not afford to buy Kentucky farm products. The state's hemp industry was particularly hard hit. Before the war, hemp had been used for bagging and ties for cotton bales and for cables and rigging of sailing vessels. But the South's cotton production declined after the war, and steamships replaced most sailing ships in the 1860's. A decrease in boat traffic along the Mississippi and Ohio rivers hurt Kentucky's smaller port cities. However, railroad construction helped many areas of the state. Louisville, with access to both river and rail transport, became a major center for the exchange of goods between the North and the South.

The 1870's and 1880's brought further economic changes. An increased interest in horse racing after the Civil War encouraged Kentucky racing establishments to raise thoroughbred horses. Many horse farms and stables were opened in the Bluegrass Region. The development of burley tobacco in central and eastern Kentucky contributed to a tremendous increase in tobacco production. But periodic depressions marked by falling tobacco prices resulted in many farm failures and a sharp rise in the number of tenant farmers.

By the 1890's, the railroad system had expanded so that the resources of eastern Kentucky could be developed. Speculators bought huge land areas in the Appalachian Plateau. Coal, oil, and timber production rose dramatically. But much of the profits went to absentee landowners outside the state.

The early 1900's. Economic unrest contributed to a bitterly fought campaign for governor in 1899. Republican William S. Taylor won the election by a narrow margin over his Democratic opponent, William Goebel.

Goebel charged fraud and demanded that the legislature examine the results of the election to determine the real winner. On Jan. 30, 1900, an assassin shot Goebel. The next day, the Democratic-controlled legislature declared Goebel the winner of the election. Taylor's backers protested the decision. Goebel died on February 3, and Lieutenant Governor J. C. W. Beckham, also a Democrat, took over as governor. But many Kentuckians still insisted that Taylor had won the election. Two groups formed, each claiming a different governor. A civil war almost broke out. A special election for governor was held in November 1900, and Beckham won.

During the late 1800's and early 1900's, a group of tobacco firms held a monopoly of all tobacco-buying in Kentucky. Farmers in western and central Kentucky fought this monopoly during the Tobacco Wars, which occurred from 1904 to 1909. Night riders burned warehouses, barns, and fields of tobacco growers who had sold to the monopoly. For the region's tobacco growers, prices remained low, and their desperation grew.

The depression of the 1930's hit Kentucky hard. Miners lost their jobs. Small farms were abandoned. Kentuckians began to seek jobs in the cities. Many worked on state highways. Others worked on forestry and other conservation projects. Factories were built. The U.S. Treasury established its gold vault at Fort Knox in 1936.

The mid-1900's. During World War II (1939-1945), farms and mines in Kentucky became productive again. The state's factories produced war materials. After the war, manufacturing grew and Kentucky began to shift from an agricultural to an industrial economy. In 1955, Kentucky lowered its voting age to 18.

The state's coal industry prospered in the 1960's, and Kentucky rose to second place behind West Virginia in coal mining. Tourism became a major industry, aided by new highways that made vacation spots easier to reach. In 1964, the Tennessee Valley Authority (TVA) opened the first facilities of the Land Between the Lakes recreation area in western Kentucky. In 1969, the TVA completed its largest steam-generating plant, in Paradise.

The late 1900's. The Lexington region experienced rapid industrial growth during the 1970's. The state became the nation's leading coal producer in the early 1970's. In 1972, the state legislature passed Kentucky's first tax on coal production. The coal-mining industry boomed during the mid-1970's, when an energy shortage hit the United States. Increased production brought new revenue to coal-producing counties in Kentucky. A 1980 state law helped these counties by returning to them half the revenue from the coal tax.

Strip mining, a method used to produce much of the state's coal, came under attack in the early 1970's. This type of mining strips off the earth to expose the coal. But rain washes away the loosened soil, causing soil erosion and water pollution. In 1978, a federal law went into effect that requires strip mine owners to restore the land as nearly as possible to its original condition.

In the 1980's, several Kentucky school systems sued state officials, charging them with inadequate and unevenly distributed funding for public schools. In 1989, Kentucky's Supreme Court ruled the state's public school system unconstitutional. A statewide school reform plan was adopted with the passage of the Kentucky Education Reform Act in 1990. The plan called for each school to be run by a committee made up of the principal, teachers, and parents. Other provisions included the establishment of preschool classes for children from low-income families, more funding for special education, and a testing system to evaluate school improvement.

In 1988, Toyota Motor Corporation opened an automobile manufacturing plant in Georgetown. With this plant and other automobile plants in Louisville and Bowling Green, Kentucky became one of the nation's leaders in automobile production in the 1990's.

At the end of the 1900's, a decreasing number of jobs for miners left many workers unemployed in the coal fields of the state. There, the levels of income, health, and education lagged behind the state's urban areas and behind the nation as a whole.

In 1999, Governor Paul E. Patton was reelected. He was the first Kentucky governor eligible to be elected to a second consecutive term since 1800. Voters had approved a constitutional amendment in 1992 allowing reelection of state officers to a second consecutive term.

Recent developments. In 2000, voters approved a constitutional amendment to allow the legislature to meet every year. Previously, the legislature had been holding sessions in even-numbered years.

Tracy Campbell and Karl B. Raitz

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Taylor, Zachary
Vinson, Frederick Moore
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Civil War
Kentucky and Virginia Resolutions
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VI. History

Questions

What part of Kentucky is famous for horse breeding?
What rivers form borders of Kentucky?
Who made the first thorough exploration of what is now Kentucky?
What is Kentucky's most famous natural wonder?
How did Kentucky's economy change after the Civil War?
What is Kentucky's leading farm product?
How old is Kentucky's Constitution?
What was Kentucky's first road?
Which area of Kentucky has the poorest soils?
Where and when was the first Kentucky school established?

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Kentucky, University of, is a coeducational state university in Lexington, Kentucky. It has colleges of agriculture, allied health professions, architecture, arts and sciences, business and economics, communications, dentistry, education, engineering, fine arts, home economics, law, library science, medicine, nursing, pharmacy, and social work. The university offers an extensive graduate program. Courses lead to bachelor's, master's, and doctor's degrees. The university's main library has a collection of more than 2 million volumes.

The university also operates community colleges in Lexington, Louisville, and 12 other Kentucky cities. On all campuses, people 65 years old and older may take any regular course without charge.

The University of Kentucky was founded in 1865 as the Agricultural and Mechanical College of Kentucky University. The school took its present name in 1916.

Critically reviewed by the University of Kentucky

See also **Kentucky** (picture: The University of Kentucky).

Kentucky and Virginia Resolutions were declarations passed by the Kentucky and Virginia state legislatures. They protested against the Alien and Sedition Acts passed by Congress in 1798. The resolutions were the first to claim that the states had the right to decide whether a law of Congress was unconstitutional. James Madison drafted the Virginia Resolutions, which were adopted in 1798. There were two sets of Kentucky Resolutions, one prepared by Thomas Jefferson and passed in 1798, and the other adopted in 1799.

Both states declared that the Alien and Sedition Acts violated the Constitution by giving the president judicial power, denying aliens the right to jury trial, and limiting freedom of speech and the press. Copies of the resolutions were sent to other states, producing a largely unfavorable response. Most Northern states said that the federal courts alone could declare an act of Congress unconstitutional. The Kentucky Resolutions of 1799 answered the replies. Kentucky asserted that a state could nullify any act of Congress it believed to be unconstitutional. Donna J. Spindel

See also **Alien and Sedition Acts; Jefferson, Thomas** (Vice President); **Nullification.**

Kentucky coffeetree is a broadleaf tree of eastern North America. During the 1700's, people who had settled in Kentucky used the seeds of this tree as a substitute for coffee beans. This practice apparently gave the tree its name.

The natural range of the Kentucky coffeetree extends from central New York westward to eastern South Dakota, southward to Oklahoma, and eastward to Kentucky and Tennessee. Throughout this range, the trees exist only as scattered individuals in open woods and forests. Most grow along rivers and in cool, moist ravines.

The tree grows 50 to 100 feet (15 to 30 meters) tall. It has dark gray bark grooved with scaly ridges. Its leaves measure 2 to 3 feet (0.6 to 0.9 meter) long and 1 to 2 feet (0.3 to 0.6 meter) wide. The leaves are *doubly compound*—that is, each leaf consists of a main stem with several side stems. Each side stem has 6 to 14 leaflets. In most cases, the entire leaf has 30 to 60 leaflets.

The Kentucky coffeetree is one of the first trees to lose its leaves in autumn and one of the last trees to open its buds in spring. Small greenish-white flowers appear in May and June. Mature trees bear either male or female flowers. Those with female flowers produce dark brown seed pods 6 to 10 inches (15 to 25 centimeters) long. Each seed pod contains four to eight large brown seeds. William H. Martin

Scientific classification. The Kentucky coffeetree belongs to the pea family, Leguminoseae or Fabaceae. Its scientific name is *Gymnocladus dioicus.*

Kentucky Derby is the most famous horse race in the United States. This $1\frac{1}{4}$-mile (2.01-kilometer) race for 3-year-old horses is held annually on the first Saturday of May at Churchill Downs race track in Louisville, Kentucky.

The Kentucky Derby has been held every year since 1875, and it ranks as the nation's oldest continually run

horse race. About 10,000 spectators watched Aristides win the first Derby—and a purse of $2,850. Since then, the Derby has become one of the most popular sports events in the United States. Over 130,000 fans attend the race each year, and millions more watch it on TV.

The Derby, the Preakness, and the Belmont Stakes form the Triple Crown of U.S. horse racing. Eleven horses have won the Triple Crown—Sir Barton in 1919, Gallant Fox in 1930, Omaha in 1935, War Admiral in 1937, Whirlaway in 1941, Count Fleet in 1943, Assault in

Kentucky Derby winners

Year	Winner	Jockey	Time*
1875	Aristides	Oliver Lewis	2 min. $37\frac{3}{4}$ s.
1876	Vagrant	Bobby Swim	2 min. $38\frac{1}{4}$ s.
1877	Baden Baden	Billy Walker	2 min. 38 s.
1878	Day Star	J. Carter	2 min. $37\frac{1}{4}$ s.
1879	Lord Murphy	C. Shaver	2 min. 37 s.
1880	Fonso	George Lewis	2 min. $37\frac{1}{2}$ s.
1881	Hindoo	Jimmy McLaughlin	2 min. 40 s.
1882	Apollo	Babe Hurd	2 min. $40\frac{1}{4}$ s.
1883	Leonatus	Billy Donohue	2 min. 43 s.
1884	Buchanan	Isaac Murphy	2 min. $40\frac{1}{4}$ s.
1885	Joe Cotton	Erskine Henderson	2 min. $37\frac{1}{5}$ s.
1886	Ben Ali	P. Duffy	2 min. $36\frac{1}{2}$ s.
1887	Montrose	Isaac Lewis	2 min. $39\frac{1}{4}$ s.
1888	Macbeth II	G. Covington	2 min. $38\frac{1}{4}$ s.
1889	Spokane	Thomas Kiley	2 min. $34\frac{1}{2}$ s.
1890	Riley	Isaac Murphy	2 min. 45 s.
1891	Kingman	Isaac Murphy	2 min. $52\frac{1}{2}$ s.
1892	Azra	Alonzo Clayton	2 min. $41\frac{1}{2}$ s.
1893	Lookout	E. Kunze	2 min. $39\frac{1}{4}$ s.
1894	Chant	Frank Goodale	2 min. 41 s.
1895	Halma	James Perkins	2 min. $37\frac{1}{2}$ s.
1896	Ben Brush	Willie Simms	2 min. $7\frac{3}{4}$ s.
1897	Typhoon II	Buttons Garner	2 min. $12\frac{1}{2}$ s.
1898	Plaudit	Willie Simms	2 min. 9 s.
1899	Manuel	Fred Taral	2 min. 12 s.
1900	Lieutenant Gibson	Jimmy Boland	2 min. $6\frac{1}{4}$ s.
1901	His Eminence	Jimmy Winkfield	2 min. $7\frac{3}{4}$ s.
1902	Alan-a-Dale	Jimmy Winkfield	2 min. $8\frac{3}{4}$ s.
1903	Judge Himes	Hal Booker	2 min. 9 s.
1904	Elwood	Frankie Prior	2 min. $8\frac{1}{2}$ s.
1905	Agile	Jack Martin	2 min. $10\frac{3}{4}$ s.
1906	Sir Huon	Roscoe Troxler	2 min. $8\frac{4}{5}$ s.
1907	Pink Star	Andy Minder	2 min. $12\frac{3}{5}$ s.
1908	Stone Street	Arthur Pickens	2 min. $15\frac{1}{5}$ s.
1909	Wintergreen	Vince Powers	2 min. $8\frac{1}{5}$ s.
1910	Donau	Robert Herbert	2 min. $6\frac{2}{5}$ s.
1911	Meridian	George Archibald	2 min. 5 s.
1912	Worth	Carroll Shilling	2 min. $9\frac{2}{5}$ s.
1913	Donerail	Roscoe Goose	2 min. $4\frac{4}{5}$ s.
1914	Old Rosebud	John McCabe	2 min. $3\frac{2}{5}$ s.
1915	Regret	Joe Notter	2 min. $5\frac{2}{5}$ s.
1916	George Smith	Johnny Loftus	2 min. 4 s.
1917	Omar Khayyam	Charles Borel	2 min. $4\frac{3}{5}$ s.
1918	Exterminator	Willie Knap	2 min. $10\frac{4}{5}$ s.
1919	Sir Barton†	Johnny Loftus	2 min. $9\frac{4}{5}$ s.
1920	Paul Jones	Ted Rice	2 min. 9 s.
1921	Behave Yourself	Charles Thompson	2 min. $4\frac{1}{5}$ s.
1922	Morvich	Albert Johnson	2 min. $4\frac{3}{5}$ s.
1923	Zev	Earl Sande	2 min. $5\frac{2}{5}$ s.
1924	Black Gold	John D. Mooney	2 min. $5\frac{1}{5}$ s.
1925	Flying Ebony	Earl Sande	2 min. $7\frac{3}{5}$ s.
1926	Bubbling Over	Albert Johnson	2 min. $3\frac{4}{5}$ s.
1927	Whiskery	Linus McAtee	2 min. 6 s.
1928	Reigh Count	Chick Lang	2 min. $10\frac{2}{5}$ s.
1929	Clyde Van Dusen	Linus McAtee	2 min. $10\frac{4}{5}$ s.
1930	Gallant Fox†	Earl Sande	2 min. $7\frac{3}{5}$ s.
1931	Twenty Grand	Charles Kurtsinger	2 min. $1\frac{4}{5}$ s.
1932	Burgoo King	Eugene James	2 min. $5\frac{1}{5}$ s.
1933	Brokers Tip	Don Meade	2 min. $6\frac{4}{5}$ s.
1934	Cavalcade	Mack Garner	2 min. 4 s.
1935	Omaha†	Willie Saunders	2 min. 5 s.
1936	Bold Venture	Ira Hanford	2 min. $3\frac{3}{5}$ s.
1937	War Admiral†	Charles Kurtsinger	2 min. $3\frac{1}{5}$ s.
1938	Lawrin	Eddie Arcaro	2 min. $4\frac{4}{5}$ s.
1939	Johnstown	James Stout	2 min. $3\frac{2}{5}$ s.
1940	Gallahadion	Carroll Bierman	2 min. 5 s.
1941	Whirlaway†	Eddie Arcaro	2 min. $1\frac{2}{5}$ s.
1942	Shut Out	Wayne D. Wright	2 min. $4\frac{2}{5}$ s.
1943	Count Fleet†	Johnny Longden	2 min. 4 s.
1944	Pensive	Conn McCreary	2 min. $4\frac{1}{5}$ s.
1945	Hoop Junior	Eddie Arcaro	2 min. 7 s.
1946	Assault†	Warren Mehrtens	2 min. $6\frac{3}{5}$ s.
1947	Jet Pilot	Eric Guerin	2 min. $6\frac{3}{5}$ s.
1948	Citation†	Eddie Arcaro	2 min. $5\frac{2}{5}$ s.
1949	Ponder	Steve Brooks	2 min. $4\frac{1}{5}$ s.
1950	Middleground	Willie Boland	2 min. $1\frac{3}{5}$ s.
1951	Count Turf	Conn McCreary	2 min. $2\frac{3}{5}$ s.
1952	Hill Gail	Eddie Arcaro	2 min. $1\frac{3}{5}$ s.
1953	Dark Star	Henry Moreno	2 min. 2 s.
1954	Determine	Ray York	2 min. 3 s.
1955	Swaps	Bill Shoemaker	2 min. $1\frac{4}{5}$ s.
1956	Needles	Dave Erb	2 min. $3\frac{2}{5}$ s.
1957	Iron Liege	Bill Hartack	2 min. $2\frac{1}{5}$ s.
1958	Tim Tam	Ismael Valenzuela	2 min. 5 s.
1959	Tomy Lee	Bill Shoemaker	2 min. $2\frac{1}{5}$ s.
1960	Venetian Way	Bill Hartack	2 min. $2\frac{2}{5}$ s.
1961	Carry Back	John Sellers	2 min. 4 s.
1962	Decidedly	Bill Hartack	2 min. $0\frac{2}{5}$ s.
1963	Chateaugay	Braulio Baeza	2 min. $1\frac{4}{5}$ s.
1964	Northern Dancer	Bill Hartack	2 min. 0 s.
1965	Lucky Debonair	Bill Shoemaker	2 min. $1\frac{1}{5}$ s.
1966	Kauai King	Don Brumfield	2 min. 2 s.
1967	Proud Clarion	Bobby Ussery	2 min. $0\frac{3}{5}$ s.
1968	Forward Pass**	Ismael Valenzuela	**
1969	Majestic Prince	Bill Hartack	2 min. $1\frac{4}{5}$ s.
1970	Dust Commander	Mike Manganello	2 min. $3\frac{2}{5}$ s.
1971	Canonero II	Gustavo Avila	2 min. $3\frac{1}{5}$ s.
1972	Riva Ridge	Ron Turcotte	2 min. $1\frac{4}{5}$ s.
1973	Secretariat†	Ron Turcotte	1 min. $59\frac{2}{5}$ s.
1974	Cannonade	Angel Cordero, Jr.	2 min. 4 s.
1975	Foolish Pleasure	Jacinto Vasquez	2 min. 2 s.
1976	Bold Forbes	Angel Cordero, Jr.	2 min. $1\frac{3}{5}$ s.
1977	Seattle Slew†	Jean Cruguet	2 min. $2\frac{1}{5}$s.
1978	Affirmed†	Steve Cauthen	2 min. $1\frac{1}{5}$ s.
1979	Spectacular Bid	Ronnie Franklin	2 min. $2\frac{2}{5}$ s.
1980	Genuine Risk	Jacinto Vasquez	2 min. 2 s.
1981	Pleasant Colony	Jorge Velasquez	2 min. 2 s.
1982	Gato Del Sol	Eddie Delahoussaye	2 min. $2\frac{2}{5}$ s.
1983	Sunny's Halo	Eddie Delahoussaye	2 min. $2\frac{1}{5}$ s.
1984	Swale	Laffit Pincay, Jr.	2 min. $2\frac{2}{5}$ s.
1985	Spend A Buck	Angel Cordero, Jr.	2 min. $0\frac{1}{5}$ s.
1986	Ferdinand	Bill Shoemaker	2 min. $2\frac{4}{5}$ s.
1987	Alysheba	Chris McCarron	2 min. $3\frac{2}{5}$ s.
1988	Winning Colors	Gary Stevens	2 min. $2\frac{1}{5}$ s.
1989	Sunday Silence	Pat Valenzuela	2 min. 5 s.
1990	Unbridled	Craig Perret	2 min. 2 s.
1991	Strike the Gold	Chris Antley	2 min. 3 s.
1992	Lil E. Tee	Pat Day	2 min. 3 s.
1993	Sea Hero	Jerry Bailey	2 min. $2\frac{2}{5}$ s.
1994	Go For Gin	Chris McCarron	2 min. $3\frac{3}{5}$ s.
1995	Thunder Gulch	Gary Stevens	2 min. $1\frac{1}{5}$ s.
1996	Grindstone	Jerry Bailey	2 min. 1 s.
1997	Silver Charm	Gary Stevens	2 min. $2\frac{2}{5}$ s.
1998	Real Quiet	Kent Desormeaux	2 min. $2\frac{1}{5}$ s.
1999	Charismatic	Chris Antley	2 min. $3\frac{1}{5}$ s.
2000	Fusaichi Pegasus	Kent Desormeaux	2 min. 1 s.
2001	Monarchos	Jorge Chavez	1 min. 59.97 s.
2002	War Emblem	Victor Espinoza	2 min. 1.13 s.

Sources: Churchill Downs; Thoroughbred Racing Associations.
*Times listed are for $1\frac{1}{2}$ miles (2.41 kilometers) through 1895 and $1\frac{1}{4}$ miles (2.01 kilometers) after.

†Winner of the Triple Crown (Kentucky Derby, Preakness Stakes, and Belmont Stakes).
**Dancer's Image ran in first but was disqualified. No time was recorded for Forward Pass.

1946, Citation in 1948, Secretariat in 1973, Seattle Slew in 1977, and Affirmed in 1978.

All colts running in the Derby carry the same weight, 126 pounds (57 kilograms). Fillies carry 121 pounds (55 kilograms). Only three fillies—Regret in 1915, Genuine Risk in 1980, and Winning Colors in 1988—have ever won the Derby. The leading Derby jockeys are Eddie Arcaro and Bill Hartack, each with five winners. Ben A. Jones trained a record six Derby winners.

A group headed by M. Lewis Clark established Churchill Downs in 1874. They built the track on a farm owned by a family named Churchill. The track opened on May 17, 1875, and held the first Kentucky Derby on its opening program. Clark modeled the race after the Epsom Derby, held every year in Epsom, England. From 1875 to 1895, horses in the Kentucky Derby raced $1\frac{1}{2}$ miles (2.41 kilometers). In 1896, the race was shortened to $1\frac{1}{4}$ miles (2.01 kilometers). William F. Reed

See also **Kentucky** (picture).

Kentucky Lake is an artificially created lake in western Kentucky and Tennessee. The lake serves as a reservoir. It was formed by the Kentucky Dam, which was built across the Tennessee River. The dam was completed in 1944.

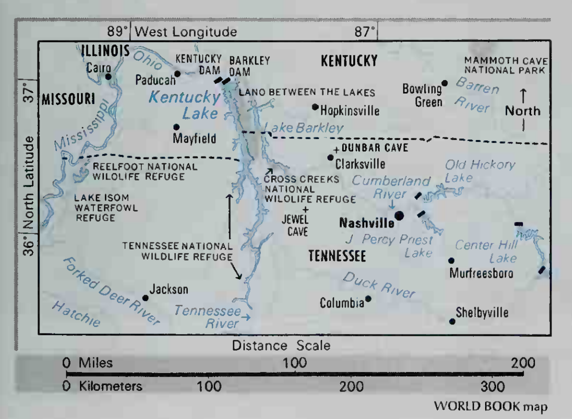
Kentucky Lake is about 185 miles (298 kilometers) long and $2\frac{1}{2}$ miles (4 kilometers) wide at its widest point. It covers 247 square miles (640 square kilometers). The lake can hold more than 6 million acre-feet (7.4 billion cubic meters) of water, making it the largest Tennessee River reservoir. About 40 miles (64 kilometers) of the lake are located in Kentucky.

Kentucky Dam lies in Kentucky, about 15 miles (24 kilometers) southeast of Paducah. It is the largest of the Tennessee Valley Authority (TVA) dams. It is 206 feet (63 meters) high and 8,422 feet (2,567 meters) long. The gravity-type concrete dam has a hydroelectric power plant with a 160,000-kilowatt capacity. The dam also has a lock that permits barges to move up and down the river. A canal near the dam connects Kentucky Lake with Lake Barkley, a reservoir on the Cumberland River about 1 mile (1.6 kilometers) to the east. Between the two lakes lies a recreation area called the Land Between the Lakes. This area is owned and operated by the TVA.

Karl B. Raitz

See also **Kentucky** (picture).

Kentucky Lake



WORLD BOOK map

Kenya, *KEHN yuh* or *KEEN yuh,* is a country on the east coast of Africa. It extends from the Indian Ocean deep into the interior of Africa. The equator runs through the center of Kenya.

Kenya's coastal area is a hot and humid tropical region. Beautiful sandy beaches, lagoons and swamps, and patches of rain forest line the coast. Inland, a vast plains area stretches over about three-fourths of Kenya. Its extremely dry climate and generally poor soil support only scattered plant life. But a highland in the southwest receives enough rainfall and has enough fertile soil to support extensive farming. Most of Kenya's people live in the highland.

A spectacular variety of wild animals live in Kenya. This wildlife—which includes elephants, giraffes, lions, rhinoceroses, and zebras—attracts thousands of tourists to Kenya each year.

Most of Kenya's people live in rural areas and farm the land and raise livestock for a living. But each year, many rural people move to Kenya's cities and towns, which are growing rapidly. Nairobi is Kenya's capi-

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Kenya's flag and coat of arms were adopted in 1963. The flag's black stripe represents the Kenyan people, the red stripe their struggle for independence, and the green stripe agriculture. Its shield and spears stand for the defense of freedom. The coat of arms bears the Swahili word for *pulling together.*



WORLD BOOK map

Kenya lies in eastern Africa. It borders the Indian Ocean. The equator runs through the middle of the country.



The Kenyan countryside is the home of many kinds of wild animals. The zebras shown here are feeding on grass near the country's southern border. Majestic Kilimanjaro, Africa's tallest mountain, rises above clouds in Tanzania, across the border.

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tal and largest city. Mombasa, which lies on the coast, is its second largest city and chief port.

Britain ruled Kenya from 1895 until it became an independent nation in 1963. During this period, the British influenced both the economic and cultural life of Kenya. Since independence, the leaders of Kenya have emphasized the African heritage of the nation.

Government

Kenya is a republic. Its Constitution, adopted in 1963, grants the people such rights as freedom of speech and religion. Kenyan citizens 18 years of age or older may vote in elections.

National government. Kenya is headed by a president who is assisted by about 20 Cabinet ministers. Each Cabinet minister heads an executive department of the government. The country's vice president is a member of the Cabinet. A National Assembly that has 200 voting members makes Kenya's laws.

Kenya's voters elect the president and 188 members of the National Assembly to five-year terms. The president appoints 12 Assembly members and selects the vice president and the other Cabinet ministers. Cabinet members are normally selected from among the members of the Assembly. Candidates for the presidency must run for a seat in the National Assembly at the same time as they run for the office of president. To become president, one must win both elections.

Local government. Kenya is divided into seven provinces and the district of Nairobi for purposes of local government. The provinces are divided into districts and subdistricts. A commissioner, who is responsible to the president, heads each province and district of Kenya. Local chiefs head the subdistricts. They are responsible to the provincial commissioners. A city commission carries out the operations of the government of the Nairobi district. Councils help govern rural counties and cities and towns within Kenya's districts.

Politics. From 1982 to 1991, only one political party—the Kenya African National Union (KANU)—was allowed to operate in Kenya. Therefore, the candidates who won the party's primary elections were certain to be elected in the general elections. But in late 1991, other political parties were legalized. The largest parties after KANU are the Democratic Party and the two factions of the Forum for the Restoration of Democracy (FORD-Asili and FORD-Kenya).

Courts. The Court of Appeals is Kenya's highest court. It hears appeals from lower courts and cases involving the constitutionality of laws. Kenya's lower courts include resident magistrate courts and district magistrate courts.

Armed forces of Kenya include an army, an air force, and a small navy and coastal patrol. About 14,000 people serve in the armed forces. All military service is voluntary.

People

Population and ethnic groups. Kenya's population is growing faster than most other places—about 3 per-

Facts in brief

Capital: Nairobi.
Languages: *Official*—English; *National*—Swahili (or Kiswahili).
Official name: Jamhuri ya Kenya (Republic of Kenya).
Area: 224,081 mi² (580,367 km²). *Greatest distances*—north-south, 640 mi (1,030 km); east-west, 560 mi(901 km). *Coastline*—284 mi (457 km).
Elevation: *Highest*—Mount Kenya, 17,058 ft (5,199 m) above sea level. *Lowest*—sea level along the coast.
Population: *Estimated 2002 population*—31,069,000; density, 139 per mi² (54 per km²); distribution, 80 percent rural, 20 percent urban. *1999 census*—28,679,000.
Chief products: *Agriculture*—bananas, beef, cassava, coffee, corn, pineapples, pyrethrum, sisal, sugar cane, tea, wheat. *Manufacturing*—cement, chemicals, light machinery, textiles, processed foods, petroleum products.
Money: *Basic unit*—Kenya shilling. One hundred cents equal one shilling.



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Nairobi is the capital and largest city of Kenya. Its downtown area, *shown here,* has many modern buildings.

cent a year. About three-fourths of Kenya's people live in rural areas. About one-fourth live in urban areas. Nairobi, Kenya's largest city, has about 1,162,000 people.

About 99 percent of Kenya's population is made up of black Africans. Other population groups, in order of size, are Asian Indians; Europeans, chiefly British; and Arabs.

Kenya's black Africans belong to about 40 different ethnic groups. The largest group, the Kikuyu (or Gikuyu), make up about 20 percent of Kenya's population. Four other ethnic groups—the Kalenjin, Kamba, Luhya, and Luo—each make up between 10 and 15 percent of the population.

Kenya's ethnic groups are divided by separate languages or dialects, and, in many areas, by differing ways of life. Differences in economic and social development have sometimes led to friction between groups. But since independence, the Kenyan government has made progress toward overcoming ethnic divisions and giving the people a sense of national unity.

Languages. Most of Kenya's ethnic groups have their own local language or dialect. Some Kenyans know only their local language. However, large numbers of people know Swahili (also called Kiswahili), as well as their local language. Swahili, Kenya's national language, is widely used for communication between people of different ethnic groups. Most educated Kenyans also know English, the official language.

Way of life. Most of Kenya's rural people live on small farm settlements, raising crops and livestock for a living. Many of these rural farm families must struggle to produce enough food for their own use. But others grow enough to offer their extra produce for sale. Many Kenyan farmers hold part-time jobs to add to their income. Some of them work as blacksmiths, carpenters, shoemakers, or tailors, or in other trades. Others work part time on large farm estates—especially coffee and tea plantations—that are owned by wealthy landowners.

About 3 percent of Kenya's people are nomads who raise livestock for a living. These people move from place to place in search of grazing land and water for their animals. They rely on their animals for food, and they judge a person's wealth by the number of animals owned. The best-known Kenyan nomads are the Maasai. These tall, slender people are famous for their skill in the use of weapons and their strongly independent ways.

Kenya's rural people value friendships in their communities. Although they must work hard to make a living, most rural Kenyans find time for regular social visits with their neighbors.

Each year, many rural Kenyans move to cities and towns to find jobs. Most of the country's urban people work in stores, factories, or business or government offices. Kenyans who move to cities and large towns find they must adjust to the fast pace, regular work schedules, and impersonal relations that are typical of those urban areas. But most urban Kenyans keep close ties with their rural friends and relatives through regular visits and letters.

Kenyans place much value on large families. Many Kenyan families have six or more children, and so the



Apartment buildings provide housing for many urban Kenyans. This building in Nairobi stands next to a vacant lot, where boys play soccer.



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Rural settlements with thatch-roofed buildings dot Kenya's countryside. Most of the people live in rural areas. Rural Kikuyu women care for their young children. The Kikuyu make up Kenya's largest ethnic group.

Kenya map index

Cities and towns

Athi River*	9,760	D	3
Bungoma	25,161	C	1
Busia*	24,857	C	2
Eldoret	59,503	C	2
El Wak	8,044	A	5
Embu	15,986	C	3
Garissa	14,076	C	4
Homa Bay	7,489	C	1
Isiolo	11,331	C	3
Kakamega	32,025	C	2
Kericho	29,603	C	2
Kilifi	5,866	D	4
Kisii	29,661	C	2
Kisumu	152,643	C	2
Kitale	28,327	B	2
Lamu	8,394	D	5
Lodwar	6,444	A	2
Machakos	84,320	D	3
Malindi	23,275	D	4
Mandera	13,126	A	5
Maralal	10,230	B	3
Marsabit	8,739	B	3
Meru	70,439	C	3
Migori	6,236	C	1
Mombasa	442,369	E	4
Moyale	7,478	A	4
Murang'a	15,290	C	3
Nairobi	1,162,189	C	3
Naivasha	11,491	C	2
Nakuru	92,851	C	2
Nanyuki	18,986	C	3
Narok	5,690	C	2
Nyahururu Falls	11,277	C	2
Nyeri	35,753	C	3
Thika	41,324	C	3
Voi	7,397	D	3
Wajir	6,384	B	4
Webuye*	17,963	C	2

Physical features

Aberdare National Park	C	3
Athi River	D	3
Cherangany Hills	B	2
Great Rift Valley	B	2
Lake Turkana (Lake Rudolf)	A	2
Lake Victoria (Victoria Nyanza)	C	1
Marsabit Game Reserve	B	3
Mau Escarpment (Steep slope)	C	2
Mount Elgon	B	2
Mount Kenya	C	3
Mount Kulal	B	3
Tana River	C	4
Tsavo National Park	D	3

*Does not appear on map; key shows general location.
Sources: 1985 official estimates for Mombasa and Nairobi; 1979 census for other places.



women are kept busy with child care. In addition, almost all women of Kenya's farm families take part in the planting and harvesting of crops. Some also work part time on large farm estates. The Kenyan government recognizes the equality of men and women, and it encourages women to become educated and achieve high-paying jobs. Some women have done so. But the vast majority are too busy with child care and farm work to advance to high positions.

Kenya's Arabs, Europeans, and Indians live chiefly along the coast and in Nairobi. Most of them own businesses or hold high-paying professional jobs.

Housing. Most rural Kenyans live in small houses with thatched roofs, walls made of mud or bundles of branches, and dirt floors. A relatively small number of urban people live in similar dwellings. In the cities, however, these kinds of houses are crowded together in slum areas.

Kenya's cities also have many modern houses made of stone and cement. These dwellings range in style from simple, inexpensive units for working-class people to expensive, large houses and apartment buildings for the wealthy.

Clothing. Most Kenyan males wear a cotton shirt and shorts or trousers. Some city men wear Western-style business suits. Most females wear cotton dresses, or skirts and blouses. Some rural Kenyans, especially nomads, wrap a one-piece cloth around their bodies for clothing.

Food and drink. Corn (called *maize* in Kenya) is the basic food of the people. Kenyans often grind corn into a porridge and mix it with other vegetables to make stew. They add fish or meat to the stew when they can afford to do so. Beer is a popular beverage in Kenya.

Recreation. Dancing is a favorite form of recreation throughout Kenya. Most of the people enjoy both dancing and watching dance performances. Motion pictures are also popular in Kenya. City people attend movie theaters, and mobile motion-picture units bring films to rural areas on a regular schedule.

Soccer ranks as Kenya's most popular sport. Children and adults throughout the country play the game for fun, and soccer matches between organized teams draw large crowds. Track and field is another favorite sport. Kenyan runners have won many medals in international competition.

Religion. More than 65 per cent of Kenya's people are Christians. About two-thirds of the Christians are Protestants, and about one-third are Roman Catholics. About 25 per cent of the people practice traditional

African religions. These faiths are based on the belief in one supreme being and many spirits that influence events. About 5 percent of Kenya's people are Muslims.

Education. Kenyan children are not required to attend school by law. But large numbers of Kenyan parents value education as a key to a better life for their children. About 80 percent of the children receive at least an elementary education.

Since independence, Kenya's government has greatly increased the number of schools in response to demands for educational opportunities by the people. Today, the government operates schools in most parts of the country. In addition, groups of private citizens have set up schools in many places that have no government schools. These schools are called self-help, or *harambee,* schools. *Harambee* is a Swahili word that means *pulling together.* Education is free for students in government elementary schools. The students in high schools and all students in harambee schools must pay tuition.

Kenya has three national schools of higher education. They are the University of Nairobi and Kenyatta University in Nairobi, and Moi University in Eldoret. Several private colleges and institutes of higher education also operate in Kenya.

The arts. Many Kenyans carve statues and make jewelry for their personal use. Kenyans have created highly artistic dances that are performed during such ceremonies as birth celebrations, marriages, and funerals. Such traditional dances are also part of national holiday celebrations, and various ethnic groups compete with one another in traditional dance contests.

Land and climate

Kenya covers 224,081 square miles (580,367 square kilometers). The land includes three distinct regions: (1) a tropical coastal area, (2) a generally dry plains area, and (3) a fertile highland.



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A traditional dance performed by members of the Maasai ethnic group, *shown here,* is hundreds of years old. These dancers, like many other Maasai people, wrap a one-piece cloth around their bodies for clothing.



© Robert Frerck

Education has received increased emphasis in Kenya since the country became independent in 1963. Many new schools have been built in the country since that time.

The coastal area is a narrow strip of land along the Indian Ocean. The region has beautiful beaches, lagoons, mangrove swamps, cashew trees, coconut palms, and a few small rain forests. The climate of the coastal area is hot and humid the year around. Temperatures average about 80 °F (27 °C). Rainfall totals about 40 inches (100 centimeters) annually. Much of the soil near the coast is fertile enough for farming, especially in the south. Mombasa, Kenya's second largest city and its chief port, lies along the coast.

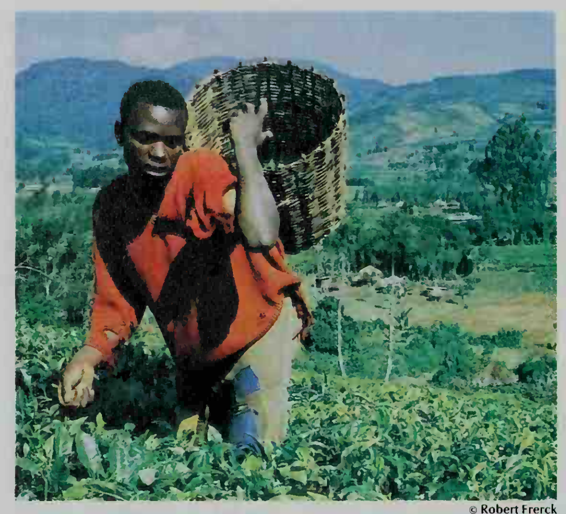
The plains stretch inland from the coastal area and cover about three-fourths of Kenya. The plains form a series of plateaus, rising from near sea level at the coast to about 4,000 feet (1,200 meters) inland. Bushes, shrubs, and grasses grow on the plains. The area is the driest part of Kenya. Much of it receives only 10 to 30 inches (25 to 76 centimeters) of rain yearly. A large northern region is desertlike, receiving less than 10 inches (25 centimeters) of rain a year. Average temperatures vary with altitude, ranging from about 80 °F (27 °C) at low levels to about 60 °F (16 °C) at the highest levels.

The plains area is the most thinly populated part of Kenya. It has no large towns or cities. Groups of nomads roam the region in search of grazing land and water for their livestock. The soil is too dry for extensive farming.

The highland lies in southwestern Kenya. It covers a little less than one-fourth of the country. It is a region of mountains, valleys, and plateaus. Mount Kenya, at its eastern end, is the highest point in the country. It rises 17,058 feet (5,199 meters) above sea level. Only one African mountain—Kilimanjaro in Tanzania—is higher.

Forests and grasslands cover much of the highland. The area has by far the largest part of Kenya's fertile soil. The soil and a good climate for agriculture make the highland Kenya's chief farming region. Temperatures average about 67 °F (19 °C), and yearly rainfall ranges from 40 to 50 inches (100 to 130 centimeters). About 75 percent of Kenya's people live in the highland. Nairobi, Kenya's largest city, is there.

The Great Rift Valley divides the highland into eastern and western sections. This deep valley, which cuts



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Kenya's highland is a region of mountains, valleys, and plateaus in the southwestern part of the country. Its fertile soil and good climate make it Kenya's chief farming region. This man is working on a tea plantation in the highland.

through much of eastern Africa from north to south, has some of the continent's most fertile soil.

Rivers and lakes. The Athi and the Tana are Kenya's chief rivers. Both flow from the highland to the Indian Ocean. The eastern part of the Athi is called the Galana. Lake Turkana (also called Lake Rudolf) covers 2,473 square miles (6,405 square kilometers) in the far north. Its northern tip extends into Ethiopia. Lake Victoria, Africa's largest lake, lies at the western end of Kenya. Most of the lake, known as Victoria Nyanza in Kenya, is within Tanzania and Uganda. The lake covers 26,828 square miles (69,484 square kilometers), of which about 1,460 square miles (3,781 square kilometers) fall within Kenya.

Animal life. Kenya is world-famous for its animal wildlife. The country's plains and—to a lesser extent—its highland are the home of large numbers of fascinating animals. Antelope, buffaloes, cheetahs, elephants, giraffes, leopards, lions, rhinoceroses, and zebras roam open spaces. Crocodiles and hippopotamuses are found where water is plentiful. Numerous large birds, such as eagles, ostriches, and storks, and dozens of species of small, brightly colored birds also live in Kenya.

Through the years, people have killed large numbers of wild animals in Kenya and have endangered some species. Many of the animals were killed legally by people who had hunting licenses. But most were victims of *poachers* (people who hunt illegally). In the mid-1900's, Kenya's government established a number of national parks and game reserves to protect animals from poachers. In 1977, the government outlawed hunting altogether to protect the animals. Today, thousands of tourists visit the national parks and game reserves each year to see and photograph the wild animals that live there.

Economy

Kenya has a developing economy. Agriculture is the chief economic activity. It accounts for about a third of Kenya's economic production and employs more people than any other activity. Manufacturing is growing in importance in Kenya. Together, manufacturing and the construction industry account for about a fifth of the economic production. Service industries, including finance, government, tourism, and wholesale and retail trade, account for most of the rest. Mining has little importance in Kenya. Kenya's economy operates as a free enterprise system. But the government places many regulations on businesses.

Agriculture. Agricultural activity in Kenya is divided about equally between the production of *cash crops* and *subsistence crops.* Cash crops are products raised for sale. Subsistence crops are those raised by farmers for their own use.

Coffee and tea are Kenya's chief cash crops and its most important source of income. Other cash crops include cashews; cotton; pineapples; sugar cane; pyrethrum, which is used to make insecticide; and sisal, used to make fiber. Corn is the main subsistence crop. Other subsistence crops include bananas, beans, cassava, potatoes, sweet potatoes, and wheat. All the subsistence crops, as well as beef and milk, are also sold on a limited basis.

Most Kenyan farmers own the land they work or rent it from the government. The majority of farms are small. But Kenya has a number of large farm estates where cash crops—especially coffee and tea—are raised. The small farms range in size from less than $2\frac{1}{2}$ acres (1 hectare) to 50 acres (20 hectares). The large estates cover from about 100 acres (40 hectares) to more than 5,000 acres (2,000 hectares). Most Kenyan farmers use traditional tools in their work. However, the use of modern equipment on Kenya's farms has been growing since the 1960's.

Manufacturing. Kenya's chief manufactured products include cement, chemicals, household utensils, light machinery, motor vehicles, paper and paper products, and textiles. Food processing is a major industrial activity in Kenya. A petroleum refinery at Mombasa refines oil that has been produced in other countries. Nairobi and Mombasa are Kenya's most important industrial centers.

Tourism contributes more income to Kenya's economy than any other single economic activity except the production and sale of coffee and tea. More than 500,000 tourists visit Kenya annually to enjoy its scenic coastal area and, especially, to view and photograph its wildlife on safaris. The money that is spent by tourists contributes more than $200 million annually to Kenya's economy. Tourist activities provide employment for about 40,000 Kenyans.

Mining. Kenya has few valuable minerals. Mining activity centers around the production of soda, fluorite, salt, and gemstones.

Foreign trade. Coffee, tea, and petroleum products are Kenya's main exports. Other exports include cement, flowers, meat, pineapples, and sisal. Imports include industrial machinery, iron and steel, and petroleum. Kenya's chief trading partners are Germany, Great Britain, Japan, and the United States.

Transportation and communication. Railroads and paved roads connect Kenya's major cities. But most of the country's roads are unpaved. Less than 1 per cent of all Kenyans own an automobile. Many people travel in buses or in crowded taxis called *matatus.* International

airports operate at Mombasa and Nairobi. Mombasa is the main seaport.

The Voice of Kenya, a government-owned network, broadcasts radio and television programs in local languages, Swahili, and English. The country has an average of about 1 radio for every 12 people and 1 television set for every 105 people. Three daily newspapers are published in Kenya—two in English and one in Swahili.

History

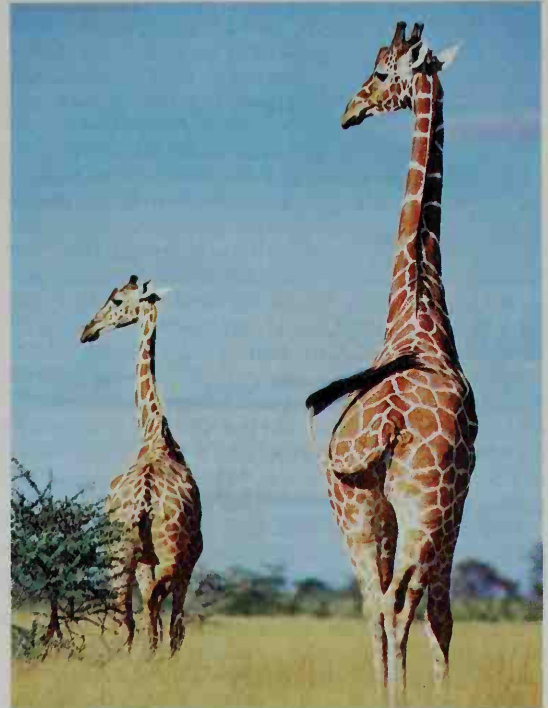
Early days. Scientists have found some of the earliest-known remains of human beings in the Great Rift Valley of eastern Africa, including parts of Kenya. Studies conducted by the Leakeys—a family of anthropologists—and others have led scientists to believe that people may have first lived in the area about 2 million years ago. However, little is known about the lives of these people.

Starting about 3,000 years ago, various peoples from other parts of Africa began moving into the Kenya area. These groups became the ancestors of today's Kenyans. They included farmers, herders, and hunters.

Arab and Portuguese control. Kenya's location along the Indian Ocean made it a stopping place for many early seafaring peoples, including Greeks, Romans, and Arabs. Arabs began visiting the coast about 2,000 years ago. In the A.D. 700's, Arabs established coastal settlements. They soon gained control of the coastal area, and they traded extensively with the people of Kenya.

In 1498, Vasco da Gama of Portugal reached the Kenyan coast after sailing around the Cape of Good Hope. The Portuguese took control of the coastal area from the Arabs in the early 1500's. They profited heavily from trade in Kenya. But the Arabs defeated the Portuguese in the late 1600's and regained control of the area. The Arabs and Portuguese had little influence over the people of the interior of Kenya.

British rule. In 1887, a private British business association leased a part of the Kenya coast that was controlled by the sultan of Zanzibar. It received a charter from the British government as the Imperial British East Africa Company in 1888. But the association lacked the money needed to develop the area.



© Robert Frerck

Giraffes and many other wild animals roam Kenya's national parks and game reserves. Thousands of tourists visit the country each year to see and photograph these animals.



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A motor-vehicle assembly plant near Nairobi, *above*, is one of many factories that have been established in Kenya since the 1960's. The factories have provided many jobs for Kenyans.

In 1895, the British government took over the area. Britain soon extended its control to all of Kenya. Kenya became known as British East Africa. In 1901, Britain completed a railroad between Mombasa and Lake Victoria. Britain encouraged British citizens and other Europeans to settle in Kenya. Before long, many Europeans had established large farms in the country. They hired Africans to work for them. British officials ruled Kenya, and the Africans had no voice in the government. The British also set up schools that were patterned after those in Britain.

Opposition to the British. During the 1940's, many Kenyan Africans began opposing British rule. The chief opposition came from Kikuyu people of central Kenya, many of whom lived in poverty under the British. In 1944, the Kikuyu and other Kenyans formed a political party called the Kenya African Union (KAU) to organize their opposition. Jomo Kenyatta, a Kikuyu, became the party's leader in 1947.

In the late 1940's, a secret movement developed among Kikuyu members of the KAU. Europeans and some Africans called the movement *Mau Mau.* The movement sought greater unity among Kenya's Africans, and demanded new British policies designed to improve the lives of the Africans. The British government took military action against the movement in 1952, after members, called nationalists, began committing terrorist acts. The British jailed thousands of the nationalists in

detention camps, and widespread fighting broke out between the government and the nationalists. In 1953, Kenyatta was convicted of leading the movement and was jailed in a remote part of Kenya. The fighting lasted until 1956. More than 13,000 people, mostly nationalists, were killed in the fighting.

In the late 1950's, all of Kenya's ethnic groups began demanding African rule. Britain agreed to the demand, and, in February 1961, elections were held to choose Africans for a new parliament. Kenyatta's political party, the Kenya African National Union (KANU), won the elections. But the party refused to take office unless the British released Kenyatta. They did not release him until August 1961. As a result, KANU's rival party, the Kenya African Democratic Union (KADU), formed a government.

Independence. Kenya gained independence from Britain on Dec. 12, 1963. Its new Constitution provided for a constitutional monarchy. The KANU Party won elections held to choose the new nation's government. Kenyatta became prime minister. In 1964, Kenya became a republic, and Kenyatta's title was changed to president.

Building the new nation. Following independence, Kenya moved rapidly to expand the public school system. The government also replaced the British colonial economic and cultural systems. It took over many farms and businesses owned by non-Africans, and sold or rented them to Africans. Non-Africans who became Kenyan citizens were allowed to keep their property.

At the time of independence, most Kenyans had more loyalty to their ethnic group than to the national government. Also, divisions existed between many ethnic groups. Since independence, Kenya's government has made some progress in promoting national pride among the people and reducing disunity.

Politically, Kenya became a one-party state in 1964, when the KADU members dissolved their party and joined KANU. A new party, the Kenya People's Union (KPU), was formed in 1966. But President Kenyatta dissolved it in 1969, after accusing many of its leaders of antigovernment activities. Kenya again became a one-party state. However, many rivalries developed among the members of the KANU Party. They centered around the question of who would succeed Kenyatta.

A border dispute led to fighting between Kenya and neighboring Somalia shortly after independence. The fighting ended in 1967. Also in 1967, Kenya, Tanzania, and Uganda formed the East African Community. This organization was created to promote trade among the three nations. It provided for the common administration of such facilities as airports and railways. However, strained relations among the member nations led to the end of the organization's operations in 1977.

Important dates in Kenya

c.1000 B.C. Various African people began settling in Kenya.
A.D. 700's Arabs gained control of Kenya's coastal area.
c. 1500-1700 The Portuguese ruled the coastal area.
1895 Kenya became a colony of Britain.
1940's Kenyans began a movement against British rule.
1963 Kenya gained independence from Britain.
1978 President Jomo Kenyatta, Kenya's first leader, died. Vice President Daniel T. arap Moi became president.
1982 KANU officially became Kenya's only legal political party.
1991 Kenya's Constitution was amended to allow for a multiparty system.

Kenyatta died in August 1978, and Vice President Daniel T. arap Moi succeeded him as president. Although KANU had become Kenya's only political party in the 1960's, others were not banned by law. But in 1982, Kenya's leaders changed the Constitution to make KANU the only legal party. In 1990, demonstrations and riots broke out in Nairobi and other cities in support of a return to the multiparty system. In 1991, the Constitution was amended to allow for a multiparty system.

Multiparty elections for the president and National Assembly were held in 1992. Moi won the presidential election, and KANU won the majority of seats in the Assembly. In 1997, protesters calling for constitutional reforms to reduce the power of the presidency held many demonstrations. Moi was reelected president in 1997.

Kenya today. Although Kenya has made much economic progress since independence, it still faces major problems. Only about a fifth of its land is suitable for farming, and its population is growing at a rapid rate. The need to find ways to feed the growing population is perhaps the country's chief challenge.

Since independence, Kenya has greatly increased its industry and tourist trade to lessen its heavy economic reliance on agriculture. Some of the capital for new industries has been provided by foreign investors. Some Kenyans object to foreign investments because they believe the investments give outsiders too much influence in their country. They also object to the emphasis on tourism, because tourism makes Kenya rely on spending by outsiders. Some Kenyans compare the new economic trends to the colonialism of earlier days. But others support the trends as ways of improving Kenya's economy and ending the reliance on agriculture.

In 1999, Kenya, Tanzania, and Uganda agreed to reestablish the East African Community. The community, which aims to promote economic and political cooperation, was formally launched in 2001. Stephen K. Commins

Related articles in *World Book* include:

Africa (pictures)
Clothing (pictures)
Great Rift Valley
Kenyatta, Jomo
Kikuyu
Lake Turkana
Lake Victoria
Leakey, Louis S.B.
Leakey, Mary D.
Leakey, Meave G.
Leakey, Richard E.F.
Maasai
Mau Mau
Moi, Daniel T. arap
Mombasa
Mount Kenya
Nairobi
National park (Kenya)

Outline

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IV. Economy
A. Agriculture
B. Manufacturing
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F. Transportation and communication

V. History

Questions

Why do most of Kenya's people live in the southwest region?

Why are primary elections more important than general elections in Kenya?
What is Kenya's largest ethnic group?
When did the movement called *Mau Mau* begin?
What are *harambee* schools?
What economic and social changes were made by Kenya's government after independence?
What was the East African Community?
How does Kenya's wildlife aid the country's economy?
What are Kenya's chief crops?
What is the highest point in Kenya?

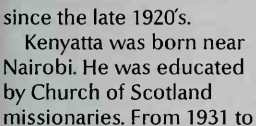
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Kenya, Mount. See Mount Kenya.

Kenyatta, *kehn YAH tuh,* **Jomo,** *JOH moh* (1890?-1978), was the first president of Kenya. He took office in 1964 when the country became a republic, and served until his death. As president, Kenyatta developed Kenya's economy and tried to unite its population of Africans, Arabs, Asians, and Europeans. He had been a leading spokesman for the cause of African nationalism since the late 1920's.


Kenya Government Information Services
Jomo Kenyatta



Kenyatta was born near Nairobi. He was educated by Church of Scotland missionaries. From 1931 to 1946, he lived in Europe, mostly in England. In 1953, Kenyatta was convicted of leading the so-called Mau Mau movement (see **Kenya** [History]). He denied the charge, but he was imprisoned and then restricted to a remote area of Kenya until 1961. In 1963, when Kenya gained its independence, Kenyatta became the nation's first prime minister. Kenyatta wrote the book *Facing Mount Kenya* (1938). Carl G. Rosberg

Kepler, Johannes, *yoh HAHN uhs* (1571-1630), a German astronomer and mathematician, discovered three laws of planetary motion. The English scientist Sir Isaac Newton later used Kepler's three laws to arrive at the principle of universal gravitation (see **Gravitation** [Newton's theory of gravitation]). Kepler's laws are:

(1) Every planet follows an oval-shaped path, or *orbit,* around the sun, called an *ellipse.* The sun is located at one focus of the elliptical orbit.

(2) An imaginary line from the center of the sun to the center of a planet sweeps out the same area in a given time. This means that planets move faster when they are closer to the sun.

(3) The time taken by a planet to make one complete trip around the sun is its *period.* The squares of the periods of two planets are proportional to the cubes of their mean distances from the sun.

Kepler was born in Weil (near Stuttgart), Germany, and graduated from the University of Tübingen. He accepted an offer to teach at the Lutheran school in Graz, Austria. But he left Graz rather than undergo compulsory conversion to Roman Catholicism. While he was seeking another post, he formed an association with Tycho Brahe, which shaped the rest of his life. Brahe, the greatest astronomical observer before the introduction of the telescope, needed an assistant, and Kepler joined him at his observatory in Prague, in what is now the Czech Republic. After Brahe died, Rudolf II, the Holy Roman emperor, appointed Kepler to be Brahe's successor as imperial mathematician.


Brown Bros.
Johannes Kepler

Kepler made his most significant discoveries trying to find an orbit to fit all Brahe's observations of the planet Mars. Earlier astronomers thought a planet's orbit was a circle or a combination of circles. However, Kepler could not find a circular arrangement to agree with Brahe's observations. He realized that the orbit could not be circular and resorted to an ellipse in his calculations. The ellipse worked, and Kepler destroyed a belief that was more than 2,000 years old.

Kepler was the first astronomer to openly uphold the theories of the Polish astronomer Nicolaus Copernicus. He also made important contributions to the science of optics. For example, he helped explain how lenses work. In addition, he showed that the eye functions like a camera when images are projected through the eye's lens onto the retina (see **Eye** [How we see]). A. Mark Smith

See also **Copernicus, Nicolaus; Planet** (How planets move).

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Keratin, *KEHR uh tihn,* is a tough, insoluble protein found in the outer layer of the skin of human beings and many other animals. This outer layer of skin is called the *epidermis.* The outermost layer of cells of the epidermis contains keratin. The keratin in these cells makes the skin tough and almost completely waterproof. In places where the skin is exposed to much rubbing and pressure—such as parts of the hands and feet—the number of cells containing keratin increases and a callus develops. Cells that contain keratin are constantly being shed and replaced by new ones. The condition known as dandruff results when the scalp sheds such cells. See **Dandruff.**

Keratin is also a part of certain structures that grow from the skin. For example, the nails and hair of human beings contain keratin. In animals, such growths as horns, hoofs, claws, feathers, and scales consist mainly of keratin. Keratin helps make these structures stronger and better suited to protect the body from the environment. Lawrence C. Wit

See also **Hair; Skin.**

Kerensky, *kuh REHN skih,* **Alexander Feodorovich,** *FEH aw dah RAW vihch* (1881-1970), was an early leader in the Russian Revolution of 1917. He gained fame as a lawyer defending people whom the czarist government had accused of revolutionary activities. After the revolution that overthrew the czar in March 1917 (February 17 on the old Russian calendar), Kerensky was the only Socialist member of the first provisional government. He became minister of justice, then minister of war, and finally prime minister. His government was well-meaning but indecisive about the popular demand for "peace, bread, and land."

The Communist Bolsheviks overthrew Kerensky's government on Nov. 7, 1917, which was October 25 on the old Russian calendar (see **Russia** [The October Revolution]). Kerensky fled Russia, and he settled in the United States in the 1940's. Kerensky was born in Simbirsk (now Ul'yanovsk), Russia. Albert Marrin

See also **Lenin, V. I.** (Return from exile).

Kern, Jerome (1885-1945), an American composer, wrote the music for many musical comedies and motion pictures. He composed such famous songs as "All the Things You Are," "Bill," "Make Believe," "Ol' Man River," and "Smoke Gets in Your Eyes."

Jerome David Kern was born in New York City. He first became known for a series of musicals that he created mainly with the English writers Guy Bolton and P. G. Wodehouse. These musicals were called the "Princess shows" because they were presented at the Princess Theatre in New York City. The Princess shows included *Very Good Eddie* (1915), *Oh, Boy!* (1917), and *Oh, Lady! Lady!!* (1918). They were written for small casts and orchestras and had modern, everyday settings. They introduced a realistic style into musicals, in contrast to the fantasy of the operettas that were popular at the time.

Kern's greatest success was *Show Boat* (1927), for which Oscar Hammerstein II wrote the lyrics. *Show Boat* was one of the first musicals in which the songs and dances were integrated into the plot. Kern's other musicals included *The Cat and the Fiddle* (1931), *Music in the Air* (1932), and *Roberta* (1933). After 1933, Kern concentrated on composing for such films as *Swing Time* (1936) and *Cover Girl* (1944). Ken Bloom

See also **Hammerstein, Oscar, II; Musical comedy** (Musical comedy matures).

Kern, John Worth (1849-1917), was the Democratic candidate for vice president of the United States in 1908. He and presidential candidate William Jennings Bryan lost to Republicans William Howard Taft and James S. Sherman. Kern was a U.S. senator from Indiana from 1911 to 1917. He served in the Indiana state Senate from 1893 to 1897. He was born in Alto, Indiana.

Robert W. Cherny

Kerosene is an important petroleum product, used chiefly as fuel. At one time, kerosene lamps were the chief source of artificial lighting. In the petroleum industry, kerosene is spelled *kerosine.*

Uses. Kerosene's greatest use is in jet aircraft engines. Commercial jet aircraft use kerosene-type jet fuels. Military aircraft use a mixture of kerosene and gasoline. Kerosene supplies lighting and cooking fuel for people far from sources of electric power. It is also used as a fuel in some portable room heaters. Many farmers use kerosene to run tractors. Kerosene operates the electric generators that charge storage batteries on farms and in small villages. It is also used as a solvent for weedkillers and insecticides.

Properties. Kerosene is a mixture of *hydrocarbons,* compounds containing the elements hydrogen and carbon. Aromatic hydrocarbons make up some of those compounds. Weedkillers and insecticides usually contain kerosene with a high aromatic hydrocarbon content. But in kerosene used for lighting, a lower content is desirable because aromatic hydrocarbons provide a poor flame and much smoke. Kerosene boils between 300 °F and 575 °F (150 °C and 300 °C). Its *specific gravity* (density relative to the density of water) is about 0.800.

Production. Petroleum refining processes produce kerosene. Refiners then treat the kerosene to remove such impurities as sulfur compounds and some aromatic hydrocarbons. Refiners use liquid sulfur dioxide or other solvents to dissolve impurities. Refiners may also treat kerosene with hydrogen at high pressure to remove aromatic hydrocarbons. The United States produces about 27 million barrels of kerosene and 435 million barrels of kerosene-type jet fuels each year.

History. Abraham Gesner, a Canadian doctor and geologist, patented a distilling process for refining oil in 1854. He produced an improved lighting oil which he called *kerosene.* He derived the name kerosene from the Greek word *keros,* which means *wax.* He refined the oil from coal, and for this reason kerosene was also called *coal oil.* Geoffrey E. Dolbear

See also **Petroleum** (Refining petroleum).

Kerouac, *KEHR oo ak,* **Jack** (1922-1969), was an American author and a leader of the *beat movement* of the 1950's and 1960's. Most of the beats were young people who reacted against what they felt were the commercialism and conventional quality of American life. Kerouac's major writings are loosely organized and autobiographical. Many describe his wanderings throughout the United States, Mexico, and Europe. Like the works of other beat writers, Kerouac's novels emphasized spiritual liberation through sex, drugs, and the Asian religion called Zen. Kerouac's most famous novel is *On the Road* (1957), an account of several beat characters who travel across the United States seeking personal fulfillment.

Kerouac was born in Lowell, Massachusetts. His real name was Jean-Louis Lebris de Kerouac. He entered Columbia University in 1940 but left a year later. He served in the merchant marine and worked as a laborer. His first book was the novel *The Town and the City* (1950). By the mid-1950's, Kerouac had become a celebrity as a spokesman for the beat movement. Arthur M. Saltzman

See also **Beat movement.**

Kerry blue terrier is the national dog of Ireland. It is named after County Kerry, where it originated. It was bred to help herd sheep and cows and kill rats and otters. The Kerry blue stands about 18 inches (46 centimeters) high at the shoulder, and weighs 30 to 40 pounds (14 to 18 kilograms). Its coat is soft and wavy. On its head it has a thick tuft, or forelock, which is usually combed between its eyes. The dog's beard makes its muzzle appear large and long. Puppies are born black but become blue-gray as they grow older. See also **Dog** (picture: Terriers); **Terrier.** Critically reviewed by the American Kennel Club

Kestrel, *KEHS truhl,* is the name of 13 species of small, brightly colored birds in the falcon family. Kestrels live

on all the continents except Antarctica. The *American kestrel* lives throughout the Americas. It is sometimes called the *American sparrow hawk* but is not a true hawk. The *common kestrel* lives throughout much of Europe, Asia, and Africa. The *lesser kestrel* is found around the Mediterranean Sea and in central Europe.

Most kestrels have a reddish-brown back. The male American kestrel has a reddish-brown tail and grayish-blue wings. The male common kestrel has a gray tail, a reddish-brown inner wing, and a dark outer wing. The male lesser kestrel has a gray tail, a grayish-blue inner wing, and a dark outer wing. Female common and lesser kestrels are mostly reddish-brown. Kestrels measure from 8 to 15 inches (20 to 38 centimeters) long.

Kestrels feed on a variety of small animals. Most species are called windhovers because they *hover* (stay in one place) in the air while they hunt. They face into the wind and beat their wings while watching the ground for prey. When they see an animal to eat, they swoop down and grab it. The common kestrel eats mice and other rodents. The American kestrel also feeds on mice, but it eats mostly insects when they are available.

Kestrels nest in holes in buildings, cliffs, and trees. They also may use nest boxes or nests abandoned by other birds. In Europe and North and South America, kestrels sometimes nest in cities, usually on top of church towers or other tall structures. Richard D. Brown

Scientific classification. Kestrels belong to the falcon family, Falconidae. The scientific name for the American kestrel is *Falco sparverius*. The common kestrel is *F. tinnunculus*. The lesser kestrel is *F. naumanni*.

See also **Falcon** (with picture).

Ketchikan, *KEHCH uh KAN* (pop. 7,922), is often called *Alaska's First City* or *Gateway*. It is so called because it is the first city most tourists reach when they travel north by sea to Alaska. Ketchikan lies on Revillagigedo Island in southeastern Alaska (see **Alaska** [political map]). It is the first port of call in Alaska for ships and ferries sailing up the Inside Passage (see **Inside Passage**).

Ketchikan's economy is based on fishing, timber, and tourism. Area fishing crews catch cod, halibut, herring, salmon, and shellfish. Several sawmills operate in the Ketchikan area. Tourists visit Misty Fiords National Monument, near the city, and view totem poles in the area.

The Ketchikan area was originally inhabited by Indians. White settlers established Ketchikan as a permanent settlement in 1884. The town grew in importance during the late 1890's as a supply base and port for miners during the gold rush to the Klondike of northwestern Canada. It was incorporated in 1900. In the 1930's, Ketchikan became the world's leading producer of canned salmon, but it now has only a few canneries. F. Patrick Fitzgerald

Ketchup is a food-seasoning sauce. It is also spelled *catsup* or *catchup*. Ketchup is made from tomatoes, vinegar, sugar, salt, and various spices. Ketchup is usually preserved by canning. The name for the seasoning originated in Asia from a word pronounced like "kaychup."

The United States Food and Drug Administration has established a "Standard of Identity" for ketchup. This standard specifies what ingredients may be included in ketchup. It also specifies the standard grade of thickness for ketchup. Jane Ann Raymond Bowers

Kettering, Charles Franklin (1876-1958), was an American engineer and inventor. He designed and developed such varied industrial products as farm lighting sets, ethyl gasoline, quick-drying lacquer, and engines for automobiles and trains.

His first inventive position was with the National Cash Register Company (now NCR Corporation) in Dayton, Ohio. He invented several accounting machines but resigned to work on an idea for an automobile ignition system. The success of the resulting invention, the self-starter, enabled him to organize the Charles F. Kettering Laboratories. The organization was made part of the General Motors Corporation in 1916 and soon became one of the most successful industrial research laboratories in the United States. Kettering was named vice president in charge of research. In 1947, he resigned to become a research consultant for General Motors.

Kettering was born near Loudonville, Ohio. He graduated from Ohio State University in 1904. During World War II (1939-1945), he was a military adviser and chairman of the National Inventors Council. George H. Daniels

See also **Starter**.

Key. See **Lock**.

Key is a musical term used to tell the tonal system in which a musical composition is written. The key includes all of the tones of a particular scale and all of the chords made from those tones. The first note of a scale is called the *keynote,* or *tonic,* and the key gets its name from that first note. The key of C, for example, has as its keynote C, which is the first note of the C scale. Each of the 12 major and 12 minor scales has a keynote.

The term *key* also means the small finger piece that opens and closes the sound holes on wind instruments. Instruments such as the piano or organ have levers called keys. Thomas W. Tunks

Key, Francis Scott (1779-1843), was a well-known Washington lawyer and amateur verse writer. He became famous for writing the words of "The Star-Spangled Banner," the national anthem of the United States. He wrote the poem during the War of 1812.

When the British retreated from Washington in the war, they took Key's friend William Beanes with them. President James Madison gave Key permission to intercede with the British for Beanes's release. Key boarded a U.S. flag of truce ship in September 1814. From this vantage point, he witnessed the British fleet's bombardment of Fort McHenry in Baltimore Harbor throughout the night. The next morning, he saw that "our flag was still there" despite the ordeal. His joy inspired him to write a poem. To set it to music, Key borrowed the tune from a popular English drinking song, "To Anacreon in Heaven." Congress adopted his song, "The Star-Spangled Banner," as the U.S. national anthem in 1931.

Key was born in Frederick County, Maryland, in an area that is now part of Carroll County. In 1801, Key began to practice law in Frederick. The next year, he moved to Georgetown, near Washington, D.C.

Key's law career included both private practice and public service positions. He was district attorney of the District of Columbia from 1833 to 1841. Also in 1833, President Andrew Jackson sent Key to settle a land dispute with Creek Indians in Alabama. Key helped found the American Colonization Society, a group that tried to end slavery by sending blacks back to Africa.

Key wrote enough verse to fill a collection, *Poems of the Late Francis S. Key, Esq.* (1857). Much of his poetry

was religious, and included the hymn, "Lord, with Glowing Heart I'd Praise Thee." William W. Freehling

See also **Star-Spangled Banner**.

Key West, Florida (pop. 25,478), is the southernmost city in the continental United States. It occupies a coral island about 100 miles (160 kilometers) southwest of the mainland (see **Florida** [political map]). It is a resort city and also has a U.S. naval air station. Key West is located only about 90 miles (140 kilometers) north of Cuba.

Before the United States took over Florida in the early 1800's, pirates and people who fished for a living inhabited the Key West area. Many people from the Florida mainland and the Bahamas went there after 1823 and made fortunes salvaging ships wrecked on the coral reefs. Key West became important in the 1870's for cigar making, fisheries, and food processing. In 1912, a railroad, built on trestles over the water, linked Key West to the mainland. A hurricane destroyed part of the railroad in 1935. The Overseas Highway replaced the railroad in 1938 and was modernized in the 1980's. Key West has a council-manager government. Peter O. Muller

Keyboard is a set of keys on a typewriter or on an input device used to enter information into a computer. Most keyboards in English-speaking countries use a layout known as *QWERTY,* because the letters *Q, W, E, R, T,* and *Y* appear in succession near the upper left-hand corner of the keyboard. Christopher Latham Sholes, one of the inventors of the earliest practical typewriter, helped develop this layout. See **Typewriter** (History).

Computer keyboards have more keys than typewriter keyboards. Most of these keys perform special tasks. Four *arrow keys,* for example, enable the computer user to move an electronic marker called the *cursor* or *insertion point* up, down, left, or right on the computer screen. The cursor indicates where the next character typed will appear. A few keyboards have a built-in *trackball, touch pad,* or other device that can be used to control the insertion point. A computer keyboard also has numerical keys grouped in a *keypad* to help users enter numbers quickly. Ten or more *function keys* perform different actions, depending on the program that is running. A user can hold down such special keys as *command, control,* or *alt,* and then press other keys to command the computer in a number of ways.

Computer users can reprogram the keys on many keyboards to produce other characters or to perform special functions. Some keyboards include buttons for adjusting the volume of the computer's speaker, for playing an audio compact disc, or for launching programs. Most computer keyboards have several *status lights* that indicate certain conditions. For example, a *caps lock* light indicates that as letters are typed they will appear as capital letters.

Many *ergonomic* computer keyboards have key arrangements that are considered to be better-suited to the human hand than the QWERTY layout. The keys on ergonomic keyboards are often divided into two or three groups, with each group mounted at a different angle to the bottom of the keyboard. William T. Verts

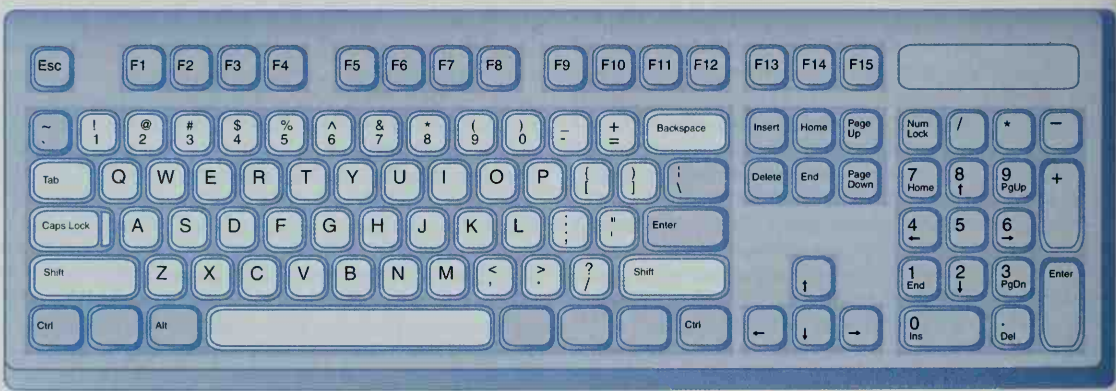
See also **Computer** (A keyboard).

Keyboard instrument. See Music (Keyboard instruments; illustration); **Piano**.

Keynes, *kaynz,* **John Maynard** (1883-1946), was an influential British economist. His *General Theory of Employment, Interest, and Money* (1936) ranks among the most important books on economics. It changed economic theory and policy and laid the foundations for modern theories of *macroeconomics.* Macroeconomics deals with the economy as a whole, including total production, overall employment, and general price levels.

Keynes maintained that governments should use *fiscal policy* (tax and spending programs) to stabilize the economy. He said the overall level of economic activity depends on *effective demand*—that is, total spending by individuals, businesses, and government.

According to Keynes, major depressions, such as the Great Depression of the 1930's, occur as a result of a drop in effective demand. He argued that in periods of depression the government should increase its spending, cut taxes, or do both to stimulate the economy.



WORLD BOOK illustration

A computer keyboard includes all the keys found on a typewriter, shown here in pale blue, along with other keys or groupings of keys. On most computer keyboards, the other groupings of keys include *function keys* along the top row; a *number pad* at the right; and *navigation keys,* such as the arrow keys and the Home, End, Page Up, and Page Down keys. Special keys along the bottom row, such as Alt and Ctrl (control), can be held down at the same time as other keys to give those keys extra functions.

These steps would result in a government budget *deficit* (shortage). But Keynes said the actions could lead to higher levels of investment and nongovernment spending and to full employment. Keynes's recommendation that government intervene in the economy was contrary to *laissez faire,* the economic theory that says government should not interfere in the private market.

By the 1960's, many governments had adopted Keynes's ideas. But numerous economists, especially those of the *monetarist school,* have challenged these ideas. Monetarists question whether Keynesian policies can achieve full employment or stabilize the economy. In particular, they blame such policies for the *stagflation* (high inflation plus high unemployment) that the United States and other countries experienced in the 1970's.

Keynes was born on June 5, 1883, in Cambridge, England, and studied at Cambridge University. He served in the British Treasury from 1915 to 1919. He won international fame after he wrote *The Economic Consequences of the Peace* (1919). The book attacks the *reparations* (payments) that the Allies demanded from the defeated Central Powers after World War I ended in 1918. Keynes then wrote a series of other books and essays. He became a government adviser in 1940 and a director of the Bank of England in 1941. He was knighted in 1942.

Barry W. Poulson

See also **Depression; Robinson, Joan Violet.**

KGB was, until 1991, a government agency of the Soviet Union. It operated a secret-police force to maintain the Communist Party's control of the country. It also gathered political and military *intelligence* (information) about other countries. Such intelligence often involves a country's national security, and governments keep much of it secret. The KGB also provided bodyguards for Soviet officials and patrolled the borders. In other countries, besides gathering intelligence, the KGB conducted various secret operations to aid governments or political organizations friendly to the Soviet Union. It also aided opponents of governments that Soviet leaders disliked.

In 1991, the head of the KGB took part with several other Communist officials in a failed attempt to take over the Soviet government. After the attempt, Soviet leaders replaced the KGB head and suspended all Communist Party activities. Later, the KGB was formally disbanded. In late 1991, the Soviet Union was replaced by a Commonwealth of Independent States.

The KGB developed from the Cheka, a secret-police force established in 1917. The organization had several names after that. In 1954, it received the name *KGB,* which stands for the Russian words meaning *Committee for State Security.* Stuart D. Goldman

Khachaturian, *KAH chuh TOOR ee uhn,* **Aram Ilich,** *ah RAHM ihl YEECH* (1903-1978), was an important Soviet composer. His music successfully accommodates folk materials from the Caucasus Mountains region in Europe and Asia with conservative elements in Russian nationalist music of the late 1800's and early 1900's. It is distinguished by strong rhythms and lyrical melodies.

One of Khachaturian's most successful works is the ballet *Gayane* (1942, revised 1957). Its colorful score accompanies scenes from life in an Armenian village and contains the "Sabre Dance," his best-known composition. He arranged a number of orchestral suites from the music of *Gayane* and the ballet *Spartacus* (1956, revised 1968). He also wrote three symphonies, three concerto-rhapsodies, a piano concerto, a violin concerto, motion-picture scores, and chamber music. He was born on June 6, 1903, near Tiflis (now Tbilisi), Georgia.

Edward V. Williams

Khalid ibn al-Walid (? -642), *KAH lihd ihb uhn al wah LEED,* was an Arab general during the Muslim conquest of Syria and nearby areas in the 600's. These victories helped spread Islam throughout the Middle East.

Islam originated in Arabia with the teachings of the Prophet Muhammad. Khalid at first opposed Muhammad, but he later became a Muslim and helped Muhammad take control of the Arabian city of Mecca in 630.

After Muhammad died in 632, some Arabian tribes considered their allegiance to Islam to be ended. Khalid, who became known as the "Sword of God," crushed rebellions among those tribes. Later, after invading the area that is now Iraq, Khalid crossed the Syrian Desert. He captured Damascus, then a major outpost of the Byzantine Empire, in 635. The next year, he defeated the Byzantines and their allies in the Yarmuk River Valley, in what is now Jordan. Kate Lang

Khamenei, *kah MAY nee* or *hah MEE nee,* **Ali,** *ah LEE* (1939-), is the supreme leader of the Islamic Republic of Iran. Members of Iran's government selected him to succeed Ayatollah Ruhollah Khomeini in this position, called the *faqih,* following Khomeini's death in 1989. Khamenei had served as president from 1981 to 1989. He is considered a rigid political and religious leader who is unwilling to compromise on improving relations with Western countries.

Khamenei was born on July 15, 1939, in Meshed in northeastern Iran. He studied Islam under Khomeini and later taught theology. Khamenei earned the religious title of *ayatollah,* the highest that can be held by a Shiite Muslim. During the 1960's and 1970's, Khamenei became a prominent opponent of the *secular* (nonreligious) government of Shah Mohammad Reza Pahlavi. In 1979, revolutionaries overthrew the shah's government and replaced it with an Islamic republic. Khamenei was named to the Revolutionary Council, which governed Iran after the revolution. He also held several other positions in the new government. As a result, he had much influence in the shaping of the Islamic state. Rudi Matthee

Khan, *kahn* or *kan,* is the word now used for *mister* in Afghanistan and other parts of central Asia. Originally, rulers used the title, then men of high rank acquired it. See also **Genghis Khan; Kublai Khan.**

Kharkov, *KAHR kawf* (pop. 1,618,000), is a machinery center in Ukraine. It lies near the iron and coal region of the Donets River Basin (see **Ukraine** [political map]). The city's factories make machinery, tractors, locomotives, and electrical equipment. Kharkov is a trading center for grain and other farm products. It is also a center of education and culture. Kharkov was founded in the 1700's. It was the capital of Ukraine until 1934, when Kiev became the new capital. Roman Szporluk

Khartoum, *kahr TOOM* (pop. 476,218; met. area pop. 817,364), is the capital of Sudan. It is located at the junction of the Blue Nile and White Nile. See **Sudan** (map). The city has many modern buildings and treelined streets. Places of interest include the governor general's palace, churches, mosques, a zoo, and museums.

Khartoum is a trading and communications center in a

rich cotton-growing area. Rail lines connect it with other parts of Sudan and with Egypt, and boats carry cargo between the main towns of the Blue and White Nile. Egyptian leader Muhammad Ali conquered Sudan, and founded Khartoum in the 1820's. In 1830, Khartoum became the capital of Sudan. Muhammad Ahmed, a Muslim leader called the *Mahdi* (divinely appointed guide), destroyed much of the city in 1885 in his revolt against the Egyptians who ruled it. British Lord Kitchener occupied Khartoum in 1898 and rebuilt it. Kenneth J. Perkins

See also **Sudan** (picture).

Khatami, *kah TAH mee,* **Mohammad,** *moh HAM mad* (1943-), was elected president of Iran in 1997 and won reelection in 2001. He is known for his moderate views. For example, Khatami supports individual rights and a more open society in Iran, including a free press. He has also called for closer economic ties between Iran and Western nations. His ability to bring about real change is limited, however. As president, Khatami has less power than the nation's supreme leader, Ayatollah Ali Khamenei, who is known as the *faqih.* Khatami's views have frequently brought him into conflict with Khamenei and other conservative members of Iran's ruling Islamic clergy.

Khatami was born in Ardakan, near Yazd, in central Iran. He studied education, philosophy, and theology at schools in Isfahan, Qom, and Tehran and became an Islamic clergyman. From 1978 to 1980, Khatami headed the Islamic Center in Hamburg, West Germany (now Germany). In 1980 and 1981, he served in the Iranian parliament and as a newspaper editor. He was minister of Culture and Islamic Guidance from 1982 to 1992, when his tolerant position on freedom of the media led to his dismissal. He was then appointed to the less important position of head of the National Library. Rudi Matthee

Khayyam, Omar. See **Omar Khayyam.**

Khoikhoi, *koy KOY,* are a people of southern Africa. They are sometimes called *hottentots,* but this name has become an insulting term meaning *savage* or *barbarian.* Anthropologists prefer the word *Khoikhoi,* the people's own name for themselves. It means *men of men.*

The Khoikhoi once lived in South Africa, but today the only remaining Khoikhoi group, the Nama, live in Namibia. Their way of life differs greatly from that of their ancestors. Some of the Nama live in rural reserves. The rest work for whites on farms or in towns.

Anthropologists believe there were once at least 18 Khoikhoi groups. The Khoikhoi were nomads who herded sheep and cattle. The women milked the herds. The men tended the herds and hunted. The traditional language of the Khoikhoi included clicking sounds and was unrelated to other African languages. The Khoikhoi in South Africa gradually disappeared as a separate people through warfare and intermarriage with other African groups and with the settlers called *Boers,* most of whom were of Dutch descent. Wade C. Pendleton

See also **Africa** (Peoples of Africa).

Khomeini, *koh MAY nee* or *hoh MAY nee,* **Ruhollah** (1900?-1989), an Islamic religious leader, was the chief political figure of Iran from 1979 until his death in 1989. He came to power after his followers had overthrown Mohammad Reza Pahlavi, the *shah* (king).

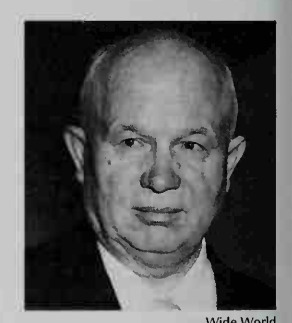
Khomeini made Iran an Islamic Republic and put Islamic laws into effect. These laws included many restrictions on the activities of the people. For example, the people were forbidden to drink alcoholic beverages.

In October 1979, the shah—who had fled from Iran—was admitted to a hospital in the United States. In November, Iranian revolutionaries took over the U.S. Embassy in Tehran, Iran. They held as hostages a group of Americans, most of whom worked for the embassy. Khomeini supported the revolutionaries, who said they would hold the hostages until the shah was returned to Iran for trial. The shah died in July 1980. The hostages were released in January 1981. During Khomeini's rule, Iran fought a destructive war with neighboring Iraq over territorial and other disagreements. After nearly eight years of war, the countries reached a cease-fire in 1988.

Khomeini's original name was Ruhollah Moussavi. He was born in Khomein, a town south of Tehran, and changed his last name to Khomeini. In the 1920's, Khomeini became a teacher of Islamic philosophy and law. Khomeini earned the title *ayatollah,* a Persian word meaning *reflection* (or *sign*) *of Allah.* This title is the highest that can be held by a member of the Shiite division of Islam. Khomeini became the chief figure among the Shiites in Iran in the early 1960's. In 1963, he was imprisoned for opposing the shah. Khomeini was exiled in 1964, but he continued to work for the overthrow of the shah. Malcolm C. Peck

See also **Rushdie, Salman.**

Khrushchev, *KROOSH chehf,* **Nikita Sergeyevich,** *nih KEE tuh surh GAY uh vihch* (1894-1971), was the leader of the Soviet Union from 1958 to 1964. He tried to raise the Soviet standard of living and greatly expanded his country's exploration of space. Khrushchev had little pity for weaker nations and his political enemies. But he sometimes showed a good-natured humor and the simple tastes of his peasant background.


Wide World
Nikita S. Khrushchev

Khrushchev strongly criticized the cruelty of the Soviet dictator Joseph Stalin, who ruled the Soviet Union mostly by terror from 1929 to 1953. Khrushchev also worked to avoid war with the Western nations. This policy helped cause a split between the Soviet Union and China and contributed to Khrushchev's fall from power.

Rise as a Communist. Khrushchev was born on April 17, 1894, in Kalinovka, near Kursk, in southwestern Russia. His father was a poor peasant who also worked as a coal miner. In 1918, Nikita joined the *Bolsheviks* (later called Communists), who had seized control of Russia in 1917. In 1922, the Communist government established the Soviet Union. Khrushchev moved to Moscow in 1929 and soon afterward won the praise of leaders of the Communist Party in Moscow. By 1939, Khrushchev had become a member of Stalin's top executive group, called the Politburo. In 1941, during World War II, Germany invaded the Soviet Union and occupied Ukraine, which was then a republic of the Soviet Union. Khrushchev helped organize troops to fight the Germans there

and headed the effort to get war-torn Ukrainian farms, coal mines, and steel mills back into production.

In 1949, Khrushchev became a secretary of the Central Committee of the Communist Party. In March 1953, Stalin died and Georgi Malenkov became premier. Six months later, Khrushchev became first secretary, or head, of the Communist Party of the country. Nikolai Bulganin succeeded Malenkov as premier of the Soviet Union in 1955.

In February 1956, Khrushchev criticized Stalin for committing mass murder and other crimes against the Soviet people. This attack began a program to dishonor Stalin that became known as *destalinization.* The government destroyed statues and pictures of Stalin and renamed many of the places that had been named for the former dictator.

In 1956, revolts took place against the Communist governments of Poland and Hungary. Khrushchev sent troops and tanks to crush the uprising in Hungary. See **Hungary** (Communist Hungary).

Soviet dictator. A number of Communist Party officials became jealous of Khrushchev's growing power. However, he managed to remove them from their jobs. On March 27, 1958, Khrushchev replaced Bulganin as premier of the Soviet Union. Khrushchev became a strong dictator. But he did not rule by terror, and he reduced the power of the country's dreaded secret police.

Khrushchev worked to raise the standard of living in the Soviet Union. He began programs to increase the production of grain, housing, and such consumer goods as clothes and furniture. He also spent huge sums on weapons and space exploration. In 1957, the Soviet Union launched Sputnik 1, the first spacecraft to circle the earth. In 1961, Soviet cosmonaut Yuri Gagarin became the first person to orbit the earth.

Khrushchev's policy in dealing with Western nations was a mixture of both gestures of peace and threats. His policy of *peaceful coexistence* with non-Communist countries caused bitter quarrels between the Soviet Union and China. The Chinese favored more warlike policies. See **Cold War** (The spirit of Geneva).

In 1962, Khrushchev threatened the United States by installing missiles in Cuba. President John F. Kennedy demanded the removal of the missiles, and Khrushchev withdrew them. Withdrawal of the missiles and the split between the Soviet Union and China disturbed many Soviet leaders. Further discontent with Khrushchev occurred during the early 1960's, when many of his attempts to raise farm production failed and the rate of industrial growth slowed. Opposition to Khrushchev grew. In October 1964, high officials in the Communist Party forced Khrushchev to retire as both premier of the Soviet Union and first secretary of the party. Khrushchev spent his remaining years writing a book of memoirs called *Khrushchev Remembers,* which was published in English in 1970. Albert Marrin

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Kallen, Stuart A. *The Khrushchev Era.* Abdo, 1992. Younger readers.
Khrushchev, Sergei. *Nikita Khrushchev and the Creation of a Superpower.* Penn. State Univ. Pr., 2000.
Tompson, William J. *Khrushchev: A Political Life.* St. Martin's, 1995.

Khufu, *KOO foo,* was a king of ancient Egypt who lived about 2600 B.C. His tomb, the Great Pyramid at Giza (Al Jizah), near Cairo, ranked as one of the Seven Wonders of the Ancient World. Khufu, called *Cheops* by the Greeks, was the son of King Snefru. Scholars know little about Khufu's life, in part because his tomb was robbed of its contents during ancient times. But Khufu established a vast cemetery at Giza, which indicates that he was a powerful ruler and capable organizer. The tombs of his mother—Hetepheres—and other relatives lie near Khufu's pyramid. Leonard H. Lesko

See also **Pyramids** (Egyptian pyramids; illustration).

Khyber Pass, *KY buhr,* is a famous and strategic mountain pass that links Pakistan and Afghanistan. The pass is about 30 miles (48 kilometers) long and rises to altitudes of over 3,500 feet (1,070 meters). At its narrowest point, the pass is only about 50 feet (15 meters) wide.

The Khyber Pass cuts through the Safed Koh mountains, which are part of the Hindu Kush range. A narrow asphalt road and an unpaved caravan path run the length of the pass. The Afridi, a Pashtun tribe, has lived in the region of the pass for hundreds of years.

The Khyber Pass occupies an extremely strategic location. It lies along the easiest land route through the mountains and deserts that form a barrier between Southwest Asia and South Asia. Over the centuries, many travelers, traders, and invaders have followed this route. The armies of the Macedonian conqueror Alexander the Great probably traveled through the Khyber Pass when they invaded the Indus Valley in the 320's B.C. Many other invaders, including the central Asian leaders Timur in the A.D. 1300's and Babur in the 1500's, also crossed the Khyber on their way into south Asia.

During the 1800's, the pass played an important role in the struggle between the United Kingdom and Russia

Khyber Pass

The Khyber Pass is a strategic mountain pass that links Pakistan and Afghanistan. It cuts through the Safed Koh mountains, which are part of the Hindu Kush range. Travelers, traders, and invaders have used the pass for centuries.





WORLD BOOK maps

for control of Afghanistan. At that time, forces from British India used the pass to enter Afghanistan. During the Third Anglo-Afghan War (1919), the Afghan and British armies fought in the pass. Millions of Afghan refugees fled to Pakistan through the Khyber Pass when Afghanistan was torn by war during the 1980's, 1990's, and early 2000's. Reuel Hanks

See also **Pakistan** (picture).

Kibbutz, *kih BOOTS* (plural *kibbutzim),* is a form of Jewish community in Israel based on the idea of social and economic equality. Members of a kibbutz share ownership of all the kibbutz's means of income production, including land and businesses. In most cases, members employed outside the kibbutz turn over their salaries to the kibbutz. Members also own all houses and buildings on kibbutz land in common. The kibbutz is responsible for providing education, health care, and housing to individuals and families.

Most kibbutzim are in rural areas. Some are in poor urban neighborhoods. The economy of most kibbutzim is based on manufacturing. Rubber and plastic are the most common products. Some kibbutz members work in agriculture. Tourism is also an important source of income for kibbutzim.

Before the 1980's, all kibbutz members worked for the kibbutz and received goods and services for their labor instead of wages. These goods and services included food, housing, education, and medical care. In the 1980's, financial difficulties prompted changes in the kibbutz structure to develop new income sources and raise productivity. Some kibbutzim began paying wages. Some began charging members for food and utilities.

Many kibbutz members hold regular daily jobs on the kibbutz. A work committee assigns other members to a variety of jobs. Many other members work outside the kibbutz. In the past, kibbutz members did all work on the kibbutz. But hired workers now handle many tasks.

When kibbutzim were first established, the adults and children of some kibbutzim lived separately. Children were raised in children's houses, where they slept, played, and studied. They spent time with their parents only after work. Since the 1970's, life has become more family-centered, and children are raised by their parents and live at home.

Elected committees and officeholders run the kibbutz government. But in most kibbutzim, the highest authority rests in the general assembly, where each adult kibbutz member gets one vote. In some kibbutzim, a representative body has replaced the general assembly.

Kibbutz ideals call for involvement in Israeli society and in Jewish communities worldwide. Kibbutz representatives serve in Israeli political parties, governmental offices, the military, and labor organizations. Kibbutzim also assign their young members to do community and educational work.

Jewish immigrants from Europe founded the first kibbutz in 1909 in the Jordan River Valley, south of the Sea of Galilee. Today, Israel has about 270 kibbutzim. They range in size from 50 to 1,000 members. Uriel Leviatan

Kickapoo Indians are a tribe who lived in the Great Lakes region of the United States before white settlers arrived there. Today, the Kickapoo are divided into three groups. One of the groups lives near Oklahoma City, Oklahoma, and another is in southern Texas and northern Mexico. The third band of Kickapoo lives in northeastern Kansas.

Until the 1800's, the Kickapoo inhabited woodland areas and hunted buffalo, deer, and other animals. They also fished and raised corn and squash. The Kickapoo built dome-shaped wigwams covered with bark (see **Indian, American** [picture: Indian ways of life]).

The first white people to have contact with the Kickapoo were French explorers, who encountered the tribe in the mid-1600's. Most Kickapoo fiercely opposed sharing their lands with white settlers. For this reason, the tribe fought against the colonists during the Revolutionary War in America (1775-1783) and against the United States during the War of 1812.

After 1820, many Kickapoo moved to what is now Oklahoma and Texas. Later, some of these Indians moved to northern Mexico. Other tribe members remained in Illinois with a religious leader named Kennekuk, also called the Kickapoo Prophet. Kennekuk's name is also spelled *Kenekuk* or *Kannekuk.* In the 1830's, the U.S. government moved Kennekuk and his followers to a reservation in present-day Kansas. Another Kickapoo reservation was established in 1883 in central Oklahoma. In 1893, the government divided part of the Oklahoma reservation among members of the Kickapoo tribe and sold the rest of the land to white people.

Today, many Kickapoo work as farmers, ranchers, or migrant laborers. The Kickapoo still follow many of their tribal customs. Few have married people outside the tribe. Members of the three Kickapoo groups meet occasionally for tribal ceremonies. R. David Edmunds

Kickboxing is a form of martial art in which competitors can use their elbows, feet, hands, knees and shins to deliver blows. Unlike such martial arts as karate, however, kickboxing is a sport and not necessarily a type of self-defense.

Kickboxers are classified as either amateurs or professionals. Rules vary, but generally matches last from 3 to 12 rounds, with each round running 2 to 3 minutes. As in boxing, a kickboxer may win in several ways. In a



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Kickboxing is a martial art in which competitors use their hands and feet to deliver a variety of kicks and punches. Kickboxers wear heavily padded gloves like those used in regular boxing.

knockout, one boxer is knocked down and cannot continue fighting after a count to 10. In a technical knockout, the referee stops the bout if, for example, one fighter cannot defend himself or is seriously cut. In a decision, judges decide the winner through a point system. Bouts are divided into weight divisions and fighting styles. Under *full contact* rules, fighters may strike only above the waist. *International rules* also allow kicks to the legs. *Muay Thai rules* permit knee and elbow strikes.

Matches are held in a boxing ring. All kickboxers must wear handwraps, boxing gloves, mouthpieces, and groin protectors. Kickboxing originated in Thailand and came to the United States during the late 1960's. Its popularity grew rapidly, and the sport is now practiced worldwide.

Critically reviewed by the International Kickboxing Federation

See also **Thailand** (picture: Thai boxing).

Kidd, William (1645?-1701), was a famous Scottish-born pirate and *privateer*. Privateers were commanders of privately owned armed vessels hired by a government to attack enemy ships.

Kidd's birthplace is not known for sure, but it was probably Greenock, Scotland. As a young man, Kidd became a privateer for England in the West Indies. By 1691, he had moved to New York, where he married and became a respectable, wealthy sea captain. But Kidd tired of this type of life and sailed to England in 1695. King William III of England directed Kidd to capture pirate ships. Kidd took command of the ship *Adventure Galley*. He picked up part of his crew in England and the rest in New York.

Kidd sailed for the Indian Ocean. On his way, he attacked merchant ships in the Red Sea and captured several on the east coast of India. Some of these ships worked for France. England was then at war with France and considered these ships prizes of war. But Kidd also attacked ships of countries friendly to England. Meanwhile, Kidd's men came to dislike him. During an argument, Kidd killed his gunner, William Moore. Most of Kidd's men deserted him when his ship landed in Madagascar, an island east of the African mainland.

Kidd and the men who remained with him sailed to the West Indies. There, he discovered that the English government had declared him a pirate. Kidd sold most of his cargo and returned to New York, where he hid some of his treasure with friends. He then sailed to Boston. He was arrested in Boston and sent to England for trial. Kidd claimed he had been forced to commit acts of piracy by his mutinous crew. But he was not allowed to present his evidence. The jury found him guilty, and he was hanged.

After Kidd's arrest, the government seized most of his hidden loot. But tales and legends grew about his treasure and career. Robert C. Ritchie

Kidnapping is the act of seizing and holding a person against his or her will. The word *kidnap* comes from the two slang words *kid*, or *child*, and *nab*, which means *to steal*. At one time kidnapping referred especially to stealing children. But the word *kidnapping* has come to be used also in cases where adults are seized and held.

Slaves were often kidnapped and sold in the slave market. Sailors were *shanghaied*, or kidnapped, and forced to work on ships. During the early 1800's, ships were occasionally stopped and entire crews *impressed*, or forced to work on other ships. An illegal arrest is actually a form of kidnapping. Fleeing criminals often kidnap one or more people and hold them as *hostages* to reduce the chance of being captured.

Kidnapping for *ransom*, or reward, became common in the United States during the 1920's and 1930's. After Charles A. Lindbergh's son was kidnapped and killed in 1932, Congress passed the "Lindbergh law." This law makes kidnapping a federal crime if the victim is taken out of the state. In 1956, Congress changed the law to allow the Federal Bureau of Investigation to work on any kidnap case after 24 hours. Under federal law, the maximum punishment for kidnapping is life imprisonment.

George T. Felkenes

See also **Hostage**.

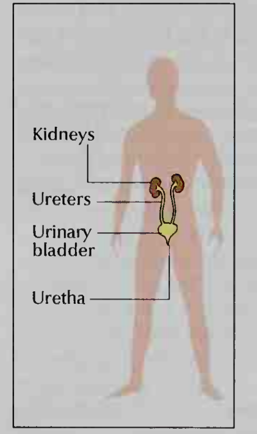
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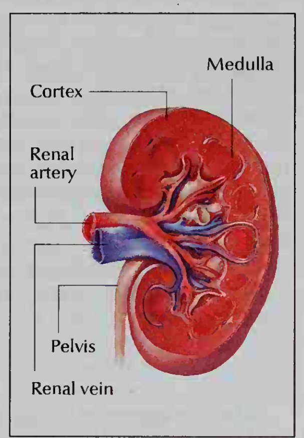
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Kidney is a complex organ in human beings and all other vertebrates. The two kidneys perform many vital functions, of which the most important is the production of urine. This fluid carries various waste materials out of the body. If the kidneys fail to function, poisons build up in the body, eventually causing death.

The kidneys look like purplish-brown kidney beans and are about the size of an adult's fist. They lie below the middle of the back on each side of the spine. The right kidney, located under the liver, is a little lower than the left one. Some people are born with only one kidney. However, they are able to lead a normal life.

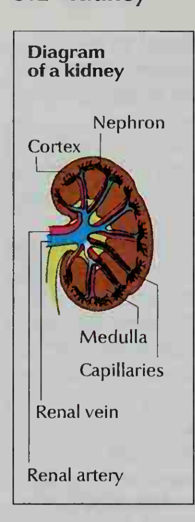
How the kidneys produce urine. Human kidneys consist of three layers. These layers are, in order, the *cortex* on the outside of the organ, the *medulla*, and the *pelvis*. Blood flows into the medulla through the *renal artery*. In the medulla and cortex, the renal artery branches into increasingly smaller arteries. Each of these arteries ends in a blood filtration unit called a *nephron*. Two healthy kidneys contain a total of about

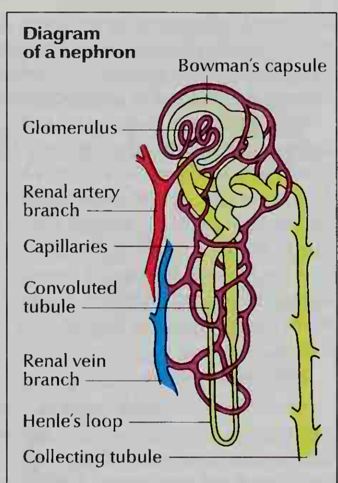




WORLD BOOK illustrations by Mary Ann Olson; Dr. Paul Peck

The kidneys remove wastes from the blood, producing urine. The urine flows through the ureters into the bladder and eventually leaves the body through the urethra. A cross section of a kidney is shown at the right.





WORLD BOOK illustrations by Mary Ann Olson

Blood enters the kidney through the renal artery. In the medulla and cortex, the renal artery divides into increasingly smaller vessels, each of which ends in a filtering unit called a *nephron.* Within each nephron, much of the blood's fluid content filters through the glomerulus into the convoluted tubule. Cells in the tubule wall absorb needed substances from this fluid, leaving the waste materials that make up urine.

2 million nephrons, which filter about 500 gallons (1,900 liters) of blood daily.

A nephron consists of a network of tiny blood vessels, the *glomerulus,* surrounded by *Bowman's capsule,* a two-layer membrane that opens into a *convoluted tubule.* Pressure forces much of the *blood plasma* (fluid portion of the blood) through the glomerulus and into Bowman's capsule. The resulting *tubular fluid,* which contains water and dissolved chemicals, then passes into the convoluted tubule.

The portion of the blood that remains in the glomerulus flows into small vessels called *capillaries,* which surround the convoluted tubule. As the tubular fluid flows through the tubule, substances needed by the body are absorbed by the cells of the tubule wall. These substances, which include amino acids, glucose, and about 99 percent of the water, then rejoin the blood in the capillaries. The capillaries return the blood to the heart by way of the *renal vein.*

Substances not absorbed in the tubule are wastes that the body cannot use. Other wastes are secreted into the tubular fluid by the tubular cells of the kidney. These various substances, which include ammonia, urea, uric acid, and excess water, make up urine. The urine passes from the convoluted tubules into larger *collecting tubules* and then into the pelvis layer of the kidney. A tube called the *ureter* carries urine from each kidney into the *urinary bladder.* Urine collects in the bladder until it passes out of the body through another tube, the *urethra.* Healthy kidneys produce from 1 to 2 quarts (0.95 to 1.9 liters) of urine daily.

Other functions of the kidneys. In addition to producing urine, the kidneys secrete a hormone called *erythropoietin,* which controls the production of red blood cells. The kidneys convert vitamin D from an inactive to an active form. The active form is essential for normal bone development. The kidneys also help maintain the blood pressure of the body by releasing an enzyme called *renin* (see **Hypertension** [Causes]).

Kidney diseases. If one kidney is lost in an accident or by disease, the other may enlarge and do the work of both. But if both kidneys are damaged or lost, waste materials accumulate in the body, causing death.

Kidney infection, called *pyelonephritis,* ranks as the most common kidney disease. Most cases result from infection that spreads upward from the bladder. Unless it is complicated by blockage of the urinary tract, pyelonephritis rarely leads to kidney failure.

The kidneys also can be damaged by antibodies produced to fight bacteria or viruses elsewhere in the body. Such reactions lead to inflammation of the glomerulus. This type of inflammation is called *glomerulonephritis,* formerly known as *Bright's disease.*

Long-term or severe high blood pressure can seriously damage the kidneys, as can diabetes. Cysts, kidney stones, and tumors may block the flow of urine. The blocked urine can damage the kidneys by exerting pressure upon them, or it may lead to pyelonephritis. Kidney disorders may also result from birth defects, injuries, or poisoning, or as a side effect of certain medications.

Many people who have lost their kidneys or have suffered kidney damage are kept alive by a *dialysis machine.* A tube connects this machine to an artery in the patient's arm. Blood flows into the machine, which removes wastes. Another tube carries the blood back into a vein in the arm. Patients generally undergo this process, called *hemodialysis,* for several hours, three times a week.

Some kidney patients can use *ambulatory dialysis,* a continuous procedure that does not involve being connected to a machine. In this process, a container of dialysis solution is emptied into the patient's abdominal cavity through a permanently implanted tube. The solution remains there for several hours, picking up wastes from the bloodstream. The patient then drains the used solution and replaces it with a fresh supply.

Other kidney patients have their diseased kidneys replaced with healthy ones in a kidney transplant. A replacement organ from a close relative is desirable because it closely matches the patient's tissues. But most replacement organs come from unrelated individuals who have died in accidents or from other causes. The patient's body always attempts to reject these "foreign" organs. However, modern medicines are usually able to control the rejection process and protect the transplanted kidney. Laurence H. Beck

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Bladder	Nephritis
Elimination	Transplant
Gout	Urea
Human body (Trans-Vision)	Uremia
Kidney stone	Urine

Kidney stone is a hard object that forms in the kidneys. Kidney stones range in size from microscopic to about as large as a golf ball. They occur primarily in men and can cause intense pain if they become stuck in the urinary tract. Most kidney stones consist of calcium salts. In many cases, doctors cannot determine why the stone forms. Some people who develop kidney stones absorb an unusually high amount of calcium from their diet. Excess calcium is eliminated in the urine. However, some

of the calcium may crystallize before it leaves the body, forming a stone.

Most kidney stones pass out of the body with the urine, often accompanied by severe pain. When a stone becomes stuck, it may need to be removed by a doctor. In some cases, the doctor can remove it by inserting a flexible tube into the *ureter* (tube that carries urine from the kidneys to the bladder). Doctors also may use a laser or a machine called a *lithotripter* to treat kidney stones. In laser treatment, an *optical fiber*—a thin thread of glass or plastic—is inserted into the ureter until it reaches the stones. The laser then produces a beam of energy that travels through the fiber and breaks the stones into fragments, which are eliminated with the urine. A lithotripter focuses shock waves on the stones while the patient sits in a water bath. The shock waves break up the stones.

Laurence H. Beck

See also **Kidney; Uric acid.**

Kiefer, *KEEF uhr,* **Anselm,** *AN sehlm* (1945-), a German painter, is one of the most important artists to appear since the end of World War II in 1945. He is among a group of painters called *neoexpressionists,* who try to inject emotional and spiritual content into art.

Kiefer's large-scale paintings reflect the physical and psychological destruction of Germany during World War II. His dark, threatening images portray a broken, devastated landscape. Previously rich, fertile fields are burned and barren. Rows drawn in the fields refer to the paths of marching soldiers rather than to plowing. There is no human presence other than reference to the dead. However, Kiefer also offers some hope. His art often includes images from German legends, expressing the strength of the German character and faith that Germany will be able to achieve its rebirth.



Acrylic and graphite pencil on joined papers (1978); The Metropolitan Museum of Art, Purchase, Lila Acheson Wallace Gift (photograph © The Metropolitan Museum of Art, New York City)

An Anselm Kiefer drawing called *Ride to the Vistula* is one of a series of works the German artist created about the Vistula River, the principal waterway of Poland, called the Weichsel in German.

Kiefer is considered one of the most technically inventive artists of his time. Many of his paintings contain photographic images and real objects, such as straw, sand, sheets of lead, and copper wires. He was born on March 8, 1945, in Donaueschingen, near Villingen-Schwenningen. Deborah Leveton

See also **Painting** (picture: *Märkischer Sand*).

Kiel Canal, *keel,* is a waterway that provides a short cut for ships sailing between the North Sea and the Baltic Sea. It once was called the Kaiser Wilhelm Canal. Its official German name is *Nord-Ostsee-Kanal* (North-East Sea Canal). It shortens the trip around Denmark by over 300 miles (480 kilometers). The canal lies in northern Germany. It leads from Brunsbüttelkoog at the mouth of the Elbe River to Holtenau near Kiel, the Baltic seaport after which it was named. A high railroad bridge crosses the canal in Rendsburg.

The Kiel Canal was begun by the German government in 1887 and completed in 1895. It has since been enlarged. Its width ranges from 336 to 531 feet (102.5 to 162 meters), and it is 36 feet (11 meters) deep and 61.3 miles (98.7 kilometers) long. Allied bombs damaged the canal during World War II (1939-1945). Frank Ahnert

Kierkegaard, *KEER kuh gahrd* or *KIHR kuh gawr,* **Søren Aabye,** *SUR uhn AW boo* (1813-1855), a Danish philosopher and religious thinker, is considered one of the founders of existentialism. He has greatly influenced religious thought, philosophy, and literature. His many books are concerned with the nature of religious faith. More specifically, he was interested in the problem of what it means to be a true Christian.

His philosophy. Kierkegaard held that religious faith is irrational. He argued that religious beliefs cannot be supported by rational argument, for true faith involves accepting what is "absurd." He insisted on the absurdity or logical impossibility of the Christian belief that God, who is infinite and immortal, was born as Jesus Christ, who was finite and mortal.

Kierkegaard cited another example of the absurdity of religion in Genesis 22, where God commands Abraham, for no apparent reason, to kill his only son, Isaac. Kierkegaard found this story of God's unreasonableness so fascinating and important that he wrote an entire book about it, *Fear and Trembling* (1843). He argued that God requires us to hold beliefs and perform actions that are ridiculous and immoral by rational standards. Because Abraham had obeyed God's outrageous commands without trying to understand or justify them, he was Kierkegaard's religious ideal, "the knight of faith."

In *Concluding Unscientific Postscript* (1846), Kierkegaard argued that nobody can attain religious faith by an objective examination of the evidence but only by a subjective choice, "a leap of faith." Furthermore, the amount of objective evidence supporting a belief does not make the belief genuine or true. Rather, true belief is measured by the sincerity and passion of the believer. He concluded that in religion "truth is subjectivity."

Kierkegaard bitterly criticized all attempts to make religion rational. He held that God wants us to obey Him, not to argue for Him. Kierkegaard regarded those who offered rational proofs for religion as having "betrayed religion with a Judas kiss."

Kierkegaard became convinced that many people who were officially Christian and who considered them-

selves Christians did not possess the unconditional faith demanded by Christianity. He often attacked the Evangelical Lutheran Church of Denmark, saying its membership no longer included any true Christians.

His life. Kierkegaard was born on May 5, 1813, in Copenhagen, where he spent most of his life. He was usually so busy with his writing that he rarely invited people to his house. But he took long and frequent walks, talking with everyone he met. When he was 22, he learned that his father, as a poor youth, had once cursed God and that his father had seduced his mother before marrying her. These revelations disturbed Kierkegaard so much that he referred to them in his writings as "the great earthquake."

In 1840, Kierkegaard became engaged to a 17-year-old girl, Regina Olson, but he broke off the engagement after about a year. Their affair continued to haunt Kierkegaard throughout his life, and in his writings he frequently attempted to explain and justify his behavior toward her. In *Fear and Trembling,* he suggested that he had to sacrifice his beloved Regina for religious reasons, just as Abraham had to sacrifice his beloved Isaac because of God's command. Ivan Soll

See also **Existentialism.**

Kiev, *KEE ehf* or *kee EHV* (pop. 2,616,000), is the capital and largest city of Ukraine. Its name in Ukrainian is *Kyiv.* The city is the political, economic, and cultural center of the country. It lies in north-central Ukraine on the Dnepr River (Dnipro in Ukrainian), in a rich agricultural and industrial region (see **Ukraine** [political map]).

Kiev's central area lies on the hilly western bank of the Dnepr. There, modern buildings stand near medieval ones. Landmarks include St. Sophia's Cathedral and the Golden Gate of Yaroslav the Wise, both completed in 1037, during the Middle Ages. The Monastery of the Caves, which has a network of *catacombs* (underground burial tunnels), also dates from the Middle Ages. The Marinsky Palace and the Church of St. Andrew were built during the mid-1700's and are important examples of the architecture of that period.

Kiev is known for its attractive parks and famous main boulevard, Khreshchatyk Street. The city has a number of colleges, universities, and research institutes. It also has many museums and theaters.

Kiev is a major manufacturing and transportation center. Its chief products include chemicals, clothing, electronic products, footwear, and machinery. The city is an important highway and railroad junction, an air transportation hub, and a busy river port.

Kiev was founded by Slavic people, possibly as early as the A.D. 400's. It prospered as a trading center and, during the late 800's, became the capital of the first East Slavic state, called Kievan Rus (see **Russia** [Early days; The state of Kievan Rus]). By the 1000's, Kiev was one of Europe's greatest centers of commerce and culture. Mongol invaders destroyed much of the city in 1240. Kiev was rebuilt in the 1300's. It came under Lithuanian rule in 1362 and under Polish rule in 1569. Russia regained control of Kiev in 1654.

In 1934, Kiev became the capital of the Ukrainian Soviet Socialist Republic of the Soviet Union, which had been formed under Russia's leadership in 1922. From 1941 to 1943, during World War II, the city was occupied by the German army and was badly damaged. It was rebuilt after the war and grew rapidly. In 1986, an explosion and fire occurred in a nuclear reactor at Chernobyl, near Kiev (see **Nuclear energy** [Safety concerns]). In 1991, following an upheaval in the Soviet Union, Ukraine and other Soviet republics declared their independence. In December of that year, the Soviet Union was dissolved. Jaroslaw Bilocerkowycz

See also **Ukraine** (picture: Kiev).



© Sovfoto

Kiev has a hilly central area that includes many historic buildings. The Church of St. Andrew, rising in the background on the right, dates from the mid-1700's. It was built under Russian rule.

Kigali, *kee GAH lee* (pop. 156,650), is the capital and largest city of Rwanda. It lies in the center of the country on a plateau about 5,000 feet (1,500 meters) above sea level (see **Rwanda** [map]).

Kigali serves as Rwanda's chief market center. Traders from many parts of the country travel to Kigali to sell their goods. Modern hotels and government and embassy buildings rise above the downtown area. Through the years, many rural Rwandans have moved to Kigali in search of jobs. However, employment opportunities and good low-cost housing in the city are limited. As a result, many people suffer from poverty and live in slums.

Kigali developed as a trading center for caravans during the early 1900's. Rwanda, which had been ruled by Belgium, became independent in 1962. Since then, Kigali has grown from a small administrative and commercial center to a crowded city. René Lemarchand

Kikuyu, *kih KOO yoo,* are the largest ethnic group in Kenya, a nation in East Africa. The Kikuyu, also known as the *Gikuyu,* make up about a fifth of the population. They include some of Kenya's most educated and prosperous people. Many Kikuyu are city dwellers who work in government or business. Other Kikuyu own large farms.

The Kikuyu have lived in what is now Kenya since the 1400's. They speak a language called Kikuyu (which Africans call Kikikuyu), or Gikuyu. It belongs to the Bantu family of African languages. The Kikuyu are divided into nine clans. Traditionally, they farmed and herded sheep and goats. Land was owned jointly by the members of groups called *mbari,* which consisted of related men.

In 1895, the British seized control of Kenya. Kikuyu life

changed greatly under the influence of Western educational and economic systems. British settlers took land the Kikuyu considered their own. With little land or political power, many Kikuyu lived in poverty. In the 1950's, the Kikuyu led a movement called Mau Mau, which opposed British rule. In 1952, fighting broke out between the British and the Mau Mau. By 1956, when most violence had ended, about 11,500 Kikuyu had been killed. The British jailed many so-called rebels, including Jomo Kenyatta, a Kikuyu leader. Thousands of Kikuyu were put in detention camps, and their homes were destroyed.

After Kenya became independent in 1963, Kenyatta was elected prime minister. His title was later changed to president. The Kikuyu played a major role in the Kenyatta government. Since Kenyatta's death in 1978, however, the new government has worked to equalize power among the Kikuyu and other groups. Gretha Kershaw

See also **Kenya** (People; History); **Kenyatta, Jomo; Mau Mau.**

Kilauea, *KEE low AY ah,* is a volcano on the island of Hawaii. Its crater, or *caldera,* is $2\frac{1}{2}$ miles (4 kilometers) long, 2 miles (3.2 kilometers) wide, and 400 feet (122 meters) deep at its deepest point. Its highest rim rises to an elevation of 4,090 feet (1,247 meters). The volcano lies in Hawaii Volcanoes National Park on the eastern slope of a larger volcano, Mauna Loa. Halemaumau crater, about $\frac{1}{2}$ mile (0.8 kilometer) wide, lies in the caldera. From 1823 to 1924, Halemaumau had a lake of bubbling molten lava. In 1924, the lake sank out of sight and violent steam explosions took place. Nine short eruptions occurred between then and 1954. Kilauea has erupted many times since the mid-1950's. In 1983, a period of eruptions began that still continues. See also **Hawaii** (picture: Volcanoes); **Hawaii Volcanoes National Park; Mythology** (picture: The fire goddess Pele). Lyndon Wester

Kilby, Jack (1923-), is one of the two inventors of the microchip, or *integrated circuit.* Such chips are widely used in computers and other types of electronic equipment. Kilby created the chip in 1958 while working for Texas Instruments. He shares credit for the invention with Robert Noyce, who developed a similar chip independently at the same time. Kilby's work won him half of the 2000 Nobel Prize in physics. The other half was shared by two physicists—Zhores Ivanovich Alferov of Russia and Herbert Kroemer, a German-born American—for their work on semiconductor structures.

Jack St. Clair Kilby was born in Jefferson City, Missouri, on Nov. 8, 1923. He earned a degree in electrical engineering from the University of Illinois. He then took a position at an electronics firm in Milwaukee. There, he worked to miniaturize electronic components, especially for use in hearing aids. At the same time, he earned a master's degree from the University of Wisconsin.

Kilby joined Texas Instruments in 1958. There, he developed the "monolithic idea." According to this concept, such circuit elements as resistors, capacitors, and transistors could be included on a single chip, if they were all made of the same semiconductor material. Kilby developed the first such chip, which contained all of the circuit elements on a narrow sliver of silicon about half an inch (13 millimeters) long. Paul N. Edwards

See also **Computer chip.**

Kilimanjaro, *KIHL uh muhn JAHR oh,* is Africa's highest mountain. It is in northern Tanzania, on the border with Kenya. Kilimanjaro has two summits. Kibo summit measures 19,331 feet (5,892 meters) high at Uhuru Peak, its highest point. Kibo's top is always covered by snow and ice even though it is near the equator. The other summit, Mawensi, stands 16,890 feet (5,148 meters) high and has no snow or ice. Kilimanjaro is a dormant volcano, one of a string of volcanic cones formed at the same time as the rift valleys of East Africa.

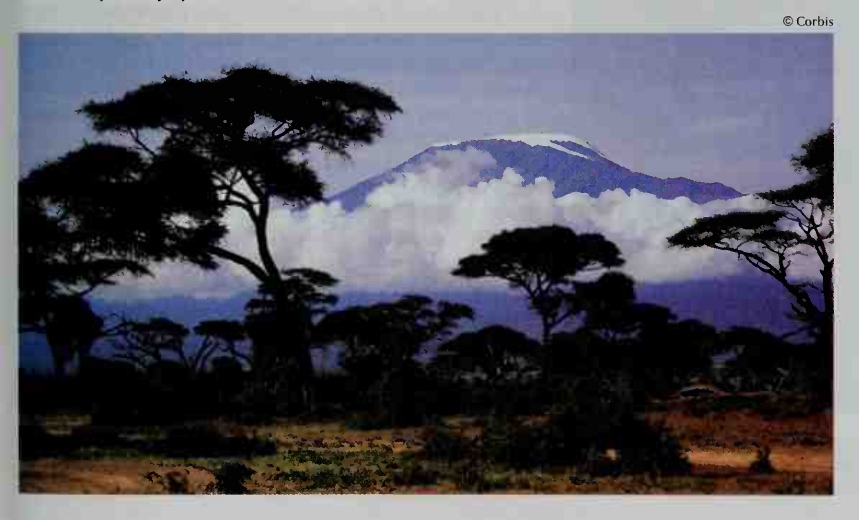
Rich soils and heavy rainfall make the slopes of Kilimanjaro good for agriculture. Along the lower slopes, farmers raise bananas and coffee. Farmers channel water from the highlands to the fertile, drier lower slopes. Kilimanjaro is a tourist attraction. The mountain is surrounded by wildlife parks in Tanzania and Kenya.

Michael L. McNulty

See also **Mountain** (diagram: Major mountains).

Killarney, *kih LAHR nee* (pop. 7,837), is a town in southwestern Ireland (see **Ireland** [political map]). It is famous for the nearby scenic mountains and woodlands and beautiful Lakes of Killarney (see **Lakes of Killarney**).

Killarney was a quiet market town until it became a center of tourism in the 1800's. Many tourists stay in Killarney while enjoying the magnificent scenery. Killarney also serves as a market center for the people of the area.



Kilimanjaro, in northern Tanzania, is the highest mountain in Africa. One of Kilimanjaro's summits, called Kibo, is always covered by snow and ice at the top. Uhuru Peak, Kibo's highest point, stands 19,331 feet (5,892 meters) high.

In addition to tourism, the town's leading economic activities include engineering and the manufacture of cranes, processed foods, and textiles. The Cathedral of St. Mary, a Roman Catholic church, is a landmark of the town. Desmond A. Gillmor

Killdeer is a well-known *plover* (shore bird) that ranges from southern Canada to South America. Its loud, shrill cry seems to say *kill-deer.* The bird is about 10 inches (25 centimeters) long, with a grayish-brown back and a white breast marked with two black bands. Killdeers build their nests in shallow depressions in fields. The female usually lays four black-spotted, buff-colored eggs. When a predator approaches a killdeer's nest or its young, the bird often tries to distract the intruder by dragging one of its wings as if it were broken. Killdeers eat many insects harmful to crops and are protected by game laws. See also **Bird** (pictures: A killdeer drags its wing; Kinds of bird nests); **Plover.** George L. Hunt, Jr.

Scientific classification. The killdeer is in the plover and lapwing family, Charadriidae. Its scientific name is *Charadrius vociferus.*

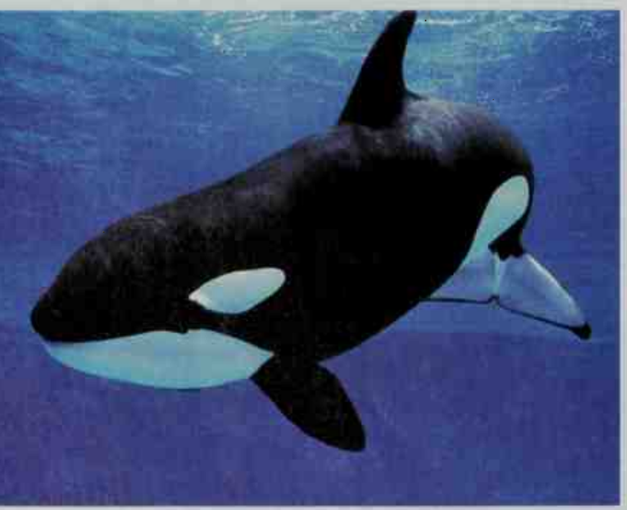
Killer bee. See **Bee** (Sting).

Killer whale, also called *orca,* is a large marine mammal. It measures from 20 to 30 feet (6 to 9 meters) long and weighs from about 3 to 10 tons (2.7 to 9 metric tons). It has a glossy black back and a white underside. Killer whales have from 40 to 48 teeth, with 10 to 12 teeth on each side of each jaw. They eat salmon and other fishes, and sometimes attack small dolphins, seals, and baleen whales. They have not been known to attack people.

Killer whales often travel in groups called *pods.* The groups range from two to dozens of animals. Pods usually consist of several females and their offspring. Each pod communicates with its own distinctive set of underwater sounds, called a *dialect.* The killer whale is found in all the oceans, but especially in cold regions.

John K. B. Ford

Scientific classification. The killer whale belongs to the dolphin family, Delphinidae. Its scientific name is *Orcinus orca.*



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The killer whale has a powerful, agile body that helps make it one of the most effective of all predators. It possesses a glossy black back, a white underside, and a white patch near each eye.

See also **Dolphin** (picture: Killer whale).

Kilmer, Joyce (1886-1918), an American author, wrote many poems and essays, but is remembered for one short poem, "Trees." The poem first appeared in *Poetry Magazine* in 1913 and was the title poem in Kilmer's collection *Trees and Other Poems* (1914). Some people have objected to the poem's sentimentality and mixed metaphors, but the poem has remained popular.

Alfred Joyce Kilmer was born on Dec. 6, 1886, in New Brunswick, New Jersey. He published two other collections of poetry and edited an anthology of Roman Catholic poets. He was killed in action during World War I. William Harmon

Kiln. See **Brick** (Firing bricks); **Cement and concrete** (Burning); **Ceramics** (Making ceramics).

Kilo, *KEE loh* or *KIHL oh,* is a prefix meaning *thousand.* See **Kilogram; Kilometer.**

Kilogram is the base unit of mass in the International System of Units (SI), the modern metric system. The mass of an object is a measure of its *inertia,* its resistance to changes in its motion. People also refer to mass as the amount of matter in an object. A bar of platinum stored at the International Bureau of Weights and Measures in France serves as the SI's standard for a mass equal to exactly 1 kilogram.

In commercial and everyday activities, the term *weight* is understood to mean mass, and people use the kilogram as a unit of weight. In this sense, a kilogram equals 2.205 pounds.

In science and technology, *weight* is the gravitational force on an object. The SI has a separate unit for force, the *newton.* At the surface of the earth, an object's weight is proportional to its mass, as shown by the equation $W = mg$, where W is weight in newtons, m is mass in kilograms, and g is the acceleration due to gravity—9.8 meters per second per second. Michael Dine

See also **Inertia; Mass; Weight.**

Kilohertz, *KIHL uh HURTS,* is a unit used to measure the frequency of many kinds of vibrations and waves, such as radio and sound waves. Its symbol is kHz. One kilohertz equals 1,000 *hertz* (cycles per second).

The waves sent out by one radio or television station differ in frequency from those transmitted by others. Thus, a tuner of a radio or TV may be adjusted to receive individual stations. The numbers on a dial of the tuner represent frequency. For example, an AM station heard at 780 on the dial—sometimes labeled 78 or 7.8—broadcasts at a frequency of 780 kHz. Hugh D. Young

See also **Short waves.**

Kilometer, *KIHL uh MEE tuhr* or *kuh LAHM uh tuhr,* is a unit of distance in the metric system. The word is also spelled *kilometre.* Its symbol is km. One kilometer equals 1,000 meters, a distance of about five-eighths of a mile. See also **Metric system; Mile.** Richard S. Davis

Kilowatt, *KIHL uh WAHT,* is a unit of power in the metric system of measurement. All countries use the unit to measure electric power—even the United States, which does not customarily use the metric system. The symbol for kilowatt is *kW.* One *kW* equals 1,000 watts, or 1.341 horsepower. One *watt* is the power defined by a current of 1 ampere flowing under an electrical pressure of 1 volt. One *kilowatt-hour* is the work done by 1 kilowatt in 1 hour. The symbol for kilowatt-hour is $kW \cdot h$. See also **Ampere; Horsepower; Volt; Watt.** Bruce F. Field

Kilt. See Tartan.

Kim Il Sung, *kihm ihl sung* (1912-1994), headed the government of North Korea from 1948, when the country was established, until his death in 1994. He served as president and head of North Korea's Communist Party. Kim led a strict dictatorship, exercising total control over North Korea's armed forces, economy, educational system, and other aspects of society.

Kim was born Kim Sung-ju in Ch'ilgol-dong, near Pyongyang. His father was a schoolteacher. During Kim's boyhood, his family moved to Jilin (also spelled Kirin), China, and he joined the Communist Party there. In the 1930's, he adopted the name Kim Il Sung. In the 1930's and early 1940's, Kim led Korean guerrilla forces against the Japanese in Korea. Japan had ruled Korea since 1910.

In the mid-1980's, Kim's government agreed to allow international inspection of North Korea's nuclear facilities. But in the early 1990's, the country stopped allowing inspections. In 1994, after Kim's death, North Korea reached an agreement with the United States about these nuclear facilities. Chong-Sik Lee

See also **Korea** (History [North Korea]).

Kim Jong Il, *kihm zhahng ihl* (1942-), is the leader of North Korea. He holds the key posts of general secretary of the Workers' Party, North Korea's ruling Communist party; chairman of the National Defense Commission; and supreme commander of the People's Army. In 2000, Kim held a summit with South Korea's leader, Kim Dae Jung. It was the first time the leaders of the two Koreas had met since the peninsula had been divided.

Kim Jong Il succeeded his father, Kim Il Sung, who died in 1994. Kim Il Sung had, with Soviet support, established North Korea as a Communist state in 1948, and he was its first leader.

Kim Jong Il was born near Khabarovsk, in southeastern Russia, then part of the Soviet Union. He graduated from Kim Il Sung University in 1964, then began moving up through the ranks of the Workers' Party. He gradually emerged as the chief interpreter of the party's principles and beliefs through his control of and support for North Korea's arts, especially filmmaking. In 1980, he was appointed to several top party offices. He used these posts and his father's support to develop and strengthen his leadership in both the party and the army, paving the way for becoming his father's successor. Carter J. Eckert

Kimberley, *KIHM buhr lee* (pop. 80,082), a city in South Africa, is one of the world's major diamond centers. It lies 647 miles (1,041 kilometers) northeast of Cape Town in the Northern Cape province (see **South Africa** [map]). Some of the world's largest diamond mines lie near Kimberly. City factories cut and polish diamonds. Other nearby mines supply asbestos, manganese, and gypsum. Prospectors founded Kimberley in 1871. In the Boer War of 1899 to 1902, Boer forces besieged Kimberley for 123 days (see **Boer War**). Bruce Fetter

Kimono. See Japan (Clothing).

Kindergarten is the school grade before first grade. Most kindergarten children are 5 or 6 years old. They spend several hours each day with a teacher who helps them learn through playing and other activities. Kindergarten activities may involve art, music, language arts, science, and social studies. The teacher also helps the children work together as a group. Some kindergartens offer formal instruction in reading and writing. German educator Friedrich Fröbel created the word *kindergarten* in the mid-1800's. The name comes from two German words that mean *garden of children.*

Kindergarten activities

Kindergartens provide activities designed to increase a child's confidence, to encourage learning and creative expression, and to develop the ability to work in groups.

Formal group activities offer organized, shared experiences for all the children in a class. Such activities should be enjoyable and interesting. They also help children learn to adjust their own plans to those of others.

Kindergarten days often begin with a discussion time. This period gives each child a chance to report interesting experiences to other children. Taking turns and being quiet while others speak help children develop self-control. In many kindergartens, each child has a special daily assignment to do for the group. Such tasks might include watering plants or helping serve a snack.

In most classrooms, children participate in group reading of oversized books that feature illustrated stories, poems, or songs. These books have an easy-to-read vocabulary and print that is large enough for a group of children to see. Other group events help children understand numbers with such exercises as counting, measuring, and matching quantities.

Many group activities involve projects in which children explore their schools, neighborhoods, or communities. Projects might include studying a nearby building under construction or visiting a post office, farm, zoo, or museum. After the children return to school, they engage in classroom activities that deepen their understanding of their experience. They may compose stories about their trip, make models of buildings or animals they saw, or dramatize events with puppets. The teacher may read stories or show videotapes about the project.

Other shared activities include a music time in which children sing, dance, or listen as a group. Many days in-



© Victoria Beller-Smith from E. R. Degginger

Kindergarten children often work in small groups under the supervision of their teacher. The youngsters shown here are listening to their teacher read during a storytelling session.

clude indoor or outdoor organized games.

Informal group and individual activities. When the class is not involved in a formal group experience, kindergarten children are free to choose many of their activities. Making choices encourages the personality development of each child. Children learn to work in their own way and to recognize and appreciate their own abilities and those of others. Most kindergartens permit children to talk freely and to share ideas and feelings during informal activities.

Kindergarten children differ from one another in their readiness to work in informal groups. They feel comfortable in groups of different sizes. They also have different interests. Some children are eager to learn to read, write, or count. Other children prefer pretending, building, or painting. The best kindergartens provide activities and materials that engage and challenge all children.

The room and the equipment

The kindergarten room should be big enough for children to move freely and not feel crowded. A big room also provides an area for activities, such as building or pretending, that require a large space.

Such features as pets or plants make the room attractive and interesting and help children feel at home. Most kindergartens have child-sized tables, chairs, washbasins, and toilets. Many kindergarten rooms are on the ground floor of a school so the children can exit quickly in the event of a fire or other disaster.

Equipment in a kindergarten provides opportunities for play and creative expression. Some equipment helps children develop skill in handling or manipulating materials. Standard supplies include puzzles and other toys; blocks of different sizes, shapes, and colors; objects that can be arranged according to size or pattern; and alphabet and number games. Most kindergartens also have miniature houses, cars, dolls, and animals. Some schools may have a workbench with real tools, where carefully supervised children are taught to sand wood, use a saw, and hammer nails. Art materials include paints and brushes, easels, fingerpaints, crayons, markers, colored pencils, and clay.

Dramatic play is an important part of the program. The room may include a center for imagining and pretending that provides clothing, equipment, and child-sized models of appliances and furnishings. Additional centers may resemble familiar areas outside the home, such as a grocery store or office.

Music plays a big part in many kindergartens. Some rooms have a piano, and most have a cassette tape player or compact disc (CD) player. The children learn or create songs and sing them with the teacher. They beat rhythms with drums, cymbals, and triangles.

Most kindergartens have a variety of books. Teachers read stories to the children and show them pictures from the books. Later, the children may examine the books alone while they recite parts they have memorized during the teacher's presentation. For many children, such recitation is a first step in learning to read.

Many kindergartens have a chalkboard. Teachers can help make words familiar by writing on the board as they discuss assignments, activities, or events. Some rooms have computers and software that enables kindergarteners to practice reading and writing.

A kindergarten may have its own outdoor play space with large climbing structures and other equipment. Youngsters develop their physical skills and coordination by climbing, running, and taking part in other active play. Kindergarteners also enjoy pretending that play structures are airplanes, cars, or spaceships.

The kindergarten teacher

A good kindergarten teacher enjoys working with young children. Such work requires great patience and the ability to understand children's concerns and to talk with children on their own level. Teachers help children meet the challenges of kindergarten by providing many kinds of support and guidance. Kindergarteners may need help playing and working in a group, putting on boots and jackets, or developing good health habits. One of the most important ways in which teachers help kindergarteners is by encouraging independence.

At the same time, teachers help create close ties with children's homes. Teachers talk with parents about their child's development throughout the year. A teacher may visit a child's home, and parents may visit the class. Many kindergartens also hold group meetings for parents. Sometimes, parents assist the kindergarten teacher by helping with activities in and out of the classroom.

In most states of the United States, kindergarten teachers need a four-year teaching degree. In most Canadian provinces, they need a three- or four-year degree followed by an additional year leading to certification. Many states now offer a specialized teaching license that qualifies a person to work with young children in nursery school through third grade.

History

Early kindergartens. Friedrich Fröbel, the founder of the kindergarten movement, started his first kindergarten in Blankenburg, Germany, in 1837. Other educators had established schools for educating young children. But Fröbel invented the term *kindergarten,* which means *garden of children* in German. Fröbel believed that children's minds and spirits grow naturally in the proper environment, much as plants grow freely in a garden. Fröbel devoted much of his life to designing methods and materials that would encourage this natural growth. Many of the materials that he developed remained standard kindergarten equipment for years.

Before Fröbel established his kindergarten, the social reformer Robert Owen had set up infant schools at New Lanark, Scotland, and New Harmony, Indiana. Owen believed that teaching children good behavior and moral attitudes would help create an ideal society.

Margaretha Meyer Schurz, a student of Fröbel's in Germany, established the first kindergarten in the United States in 1856. In her Watertown, Wisconsin, home, she started a German-speaking school for her children and the children of her relatives. Some neighbors soon asked if their children could join. Schurz expanded her kindergarten to include other children of the community and moved the class to a small vacant building.

Elizabeth P. Peabody, a teacher and author, started an English-speaking kindergarten in Boston in 1860. The first public kindergarten opened in the St. Louis, Missouri, school system in 1873. The first public kinder-

garten in Canada was established in Ontario in 1871.

The first kindergartens served children from both low-income and wealthy homes. Many early public school kindergartens were privately funded by charities. These kindergartens tried to provide good experiences for children as young as 3 years old. They also tried to improve home conditions. Teachers spent almost half their time giving families the types of assistance that social workers today provide. Such assistance might include advice about child care, health, or housing.

During the 1900's, more and more communities recognized the value of kindergarten programs. As a result, the kindergarten movement continued to spread to smaller cities, towns, and rural areas. Teacher-training schools gave increased attention to training kindergarten teachers. Many communities provided funds for enriching their teaching programs.

Kindergartens today face several challenges. Class size is a major issue for many communities. The National Association for the Education of Young Children recommends that classes for 5-year-olds consist of no more than 15 students. The association is the largest organization in the United States of teachers and directors of preschools, kindergartens, and elementary schools. Budget limits, however, force many schools to place 25 or more students in each class. Large classes make it hard for teachers to meet individual students' needs.

Budget limits also affect kindergarten schedules. Traditionally, kindergarten was a half-day program. Half the students in a school district attended in the morning, and the other half went to school in the afternoon. Many parents and educators now favor a full-day kindergarten program. But some communities do not have the resources to provide full-day kindergarten. Such programs require twice as many teachers, classrooms, and materials as do half-day programs.

Many communities also debate how best to meet the needs of an increasingly diverse group of students. Many 5-year-olds have some type of preschool education before they reach kindergarten. Some people therefore feel that kindergarteners are ready for formal instruction in reading, arithmetic, and other subjects. But such instruction may be premature for students who come to kindergarten with no preschool experience.

Because of immigration, many communities have students from a variety of countries and cultures. Some of these students do not speak the local language and must learn it when they start school. Such students would have difficulty understanding formal lessons given in a language they have not yet mastered. Most experts feel that informal learning provides a better opportunity to meet the needs of all kindergarteners than does formal instruction.

Another debate concerns the best age for students to start kindergarten. Many public schools determine eligibility for kindergarten by setting a date by which an entering student must reach 5 years of age. Some parents feel children who are ready should attend kindergarten before they reach 5. Other families want to postpone enrollment while a child matures physically or intellectually. Some kindergartens are experimenting with flexible kindergarten entrance dates and multiage groupings. Such a grouping might include children ages 4 and 5 in the same classroom. Mary Renck Jalongo

See also **Fröbel, Friedrich Wilhelm August; Hearst, Phoebe Apperson; Nursery school; Owen, Robert.**

Additional resources

Brosterman, Norman. *Inventing Kindergarten.* Abrams, 1997.
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Kinesics, *kih NEE sihks,* is the scientific study of the body movements involved in communication, especially as they accompany speech. These movements include gestures, facial expressions, eye behavior, and posture. The movements studied by kinesic scientists are commonly called *body language* or *nonverbal behavior.*

Kinesics was developed by the American anthropologist Ray L. Birdwhistell. He used slow-motion films of conversations to analyze speakers' behavior. He borrowed many terms and techniques from linguistics to identify the basic motions that made up meaningful gestures and other behavior. He reported the results of his findings in the books *Introduction to Kinesics* (1952) and *Kinesics and Context* (1970). Mark L. Knapp

Kinetic energy. See **Energy** (Kinetic energy).

King is a title denoting sovereignty. In many eastern countries, the king or emperor was once considered to be the representative of a god or a divine family. In Europe, many Teutonic tribes elected a king only in wartime. He ruled a tribe, not a territory. When the tribes were converted to Christianity, the king gained prestige. The church crowned him and supported the idea that he was the source of justice in the realm as the vice regent of God. However, the king was not all-powerful but was considered bound by his people's customary laws.

From these roots grew the idea of a responsible monarchy. In the United Kingdom and other European countries, the monarch possesses little authority. In other kingdoms, however, the ruler has virtually absolute power. Robert E. Dowse

Related articles. For information about specific kings, see names of individuals; for example, **Henry VIII.** See also:

Coronation	Emperor	Royal household of the United Kingdom
Crown	Primogeniture	Sovereignty
Divine right of kings	Prince consort	Viceroy
	Queen	

King, B. B. (1925-), is an American blues singer and guitarist. With his electric guitar named "Lucille," he developed the urban blues sound. This style of playing features wide *vibrato* (wavering sound), loud and ringing notes, and solos filled with piercing feedback. King is a great showman, popular with both audiences and musicians. He has been a major influence on rock music, especially on British musicians who emerged in the 1960's, such as Eric Clapton, Mick Jagger, and John Mayall.


© Karen Pulfer Focht, LGI
B. B. King

Riley B. King was born near Itta Bena, Mississippi, in a cabin on a planta-

tion. He bought a cheap guitar at the age of 12 and taught himself to play. He heard and played the local variety of blues before moving to Memphis, Tennessee, a blues center, when he was 23. In Memphis, King sang on a local radio station and on Beale Street, the site of many blues clubs. He became known as the "Beale Street Blues Boy" and then "Blues Boy King," which was shortened to "B. B. King." He made his first commercial recording in 1949. His hits include "Everyday I Have the Blues" (1955) and "The Thrill Is Gone" (1970). *Blues All Around Me* (1996) is King's autobiography. Frank Tirro

See also **Blues**.

King, Billie Jean (1943-), an American tennis star, became one of the greatest women players in history. In 1972, she won the women's singles title in three of the most important tennis tournaments—the United States Open, the All-England (Wimbledon) Championships, and the French National Championships. She also won the U.S. National Championships (now the U.S. Open) in 1967 and was U.S. Open champion in 1971 and 1974. She won the Wimbledon title in 1966, 1967, 1968, 1973, and 1975. King won a total of 20 Wimbledon championships in singles, in women's doubles, and in mixed doubles, which set a record for that tennis tournament.

Billie Jean Moffitt King was born in Long Beach, California. She enrolled in the city's tennis program when she was 11 years old and quickly became one of the top young amateur tennis players in the United States. King turned professional in 1968, the first year that major tournaments were open to professional tennis players. She became an important force in making a success of women's professional tennis. In 1971, King won 19 tennis tournaments and became the first woman tennis player to earn $100,000 in a single year. Arthur Ashe

King, Coretta Scott (1927-), is an African American supporter of civil rights and the widow of civil rights leader Martin Luther King, Jr. She is president of the King Center in Atlanta, Georgia. The center includes her husband's burial place near the church where King was pastor. It works to commemorate King's achievements.



AP/Wide World

Coretta Scott King

Coretta King was born near Marion, Alabama. She graduated from Antioch College and studied concert singing at the New England Conservatory of Music. Mrs. King helped her husband in his civil rights work by giving speeches and recitals. She continued these activities after King's death in 1968. She is the author of *My Life with Martin Luther King, Jr.* (1969). David J. Garrow

See also **King, Martin Luther, Jr.**

King, Karl (1891-1971), was an American bandmaster and composer. He wrote about 300 works, including more than 200 marches. Much of King's music was written for, or heavily influenced by, the circus. His *Barnum and Bailey's Favorite* (1913) became the theme song of that circus and ranks as one of the most popular marches ever written.

Karl Lawrence King was born in Paintersville, Ohio, near Xenia. He grew up in Canton, Cleveland, and Xenia, Ohio, and studied music with the local bandmaster in Canton. King left school after eighth grade. For a time, he worked in a printer's shop during the day and composed at night. His first march was published when he was 17. King became a professional baritone player about 1910 and played with several circus bands. In 1920, he began a 50-year career as director of the Fort Dodge (Iowa) Municipal Band. Stewart L. Ross

King, Martin Luther, Jr. (1929-1968), an African American Baptist minister, was the main leader of the civil rights movement in the United States during the 1950's and 1960's. He had a magnificent speaking ability, which enabled him to effectively express the demands of African Americans for social justice. King's eloquent pleas won the support of millions of people—blacks and whites—and made him internationally famous. He won the 1964 Nobel Peace Prize for leading nonviolent civil rights demonstrations.

In spite of King's stress on nonviolence, he often became the target of violence. White racists threw rocks at him in Chicago and bombed his home in Montgomery, Alabama. Finally, violence ended King's life at the age of 39, when an assassin shot and killed him.

Some historians view King's death as the end of the civil rights era that began in the mid-1950's. Under his leadership, the civil rights movement won wide support among whites, and laws that had barred integration in the Southern States were abolished. King became only the second American whose birthday is observed as a national holiday. The first was George Washington, the nation's first president.

King based his program of nonviolence on Christian teachings. He wrote five books: *Stride Toward Freedom* (1958), *Strength to Love* (1963), *Why We Can't Wait* (1964), *Where Do We Go from Here: Chaos or Community?* (1967), and *The Trumpet of Conscience* (1968).

Early life. King was born on Jan. 15, 1929, in Atlanta, Georgia. He was the second oldest child of Alberta Williams King and Martin Luther King. He had an older sister, Christine, and a younger brother, A. D. The young Martin was usually called M. L. His father was pastor of the Ebenezer Baptist Church in Atlanta. One of Martin's grandfathers, A. D. Williams, also had been pastor there.

In high school, Martin did so well that he skipped both the 9th and 12th grades. At the age of 15, he entered Morehouse College in Atlanta. King became an admirer of Benjamin E. Mays, Morehouse's president and a well-known scholar of black religion. Under Mays's influence, King decided to become a minister.

King was ordained just before he graduated from Morehouse in 1948. He entered Crozer Theological Seminary in Chester, Pennsylvania, to earn a divinity degree. King then went to graduate school at Boston University, where he got a Ph.D. degree in theology in 1955. In Boston, he met Coretta Scott of Marion, Alabama, a music student. They were married in 1953. The Kings had four children—Yolanda, Dexter, Martin, and Bernice. In 1954, King became pastor of the Dexter Avenue Baptist Church in Montgomery, Alabama.

The early civil rights movement. King's civil rights activities began with a protest of Montgomery's segregated bus system in 1955. That year, a black passenger





AP/Wide World

King began his civil rights activities by leading a protest against the segregated bus system of Montgomery, Ala., in 1955. King, *center,* insisted that the protest be nonviolent.

named Rosa Parks was arrested for disobeying a city law requiring that blacks give up their seats on buses when white people wanted to sit in their seats or in the same row. Black leaders in Montgomery urged blacks to *boycott* (refuse to use) the city's buses. The leaders formed an organization to run the boycott, and asked King to serve as president. In his first speech as leader of the boycott, King told his black colleagues: "First and foremost, we are American citizens. . . . We are not here advocating violence. . . . The only weapon that we have . . . is the weapon of protest. . . . The great glory of American democracy is the right to protest for right."

Terrorists bombed King's home, but King continued to insist on nonviolent protests. Thousands of blacks boycotted the buses for over a year. In 1956, the United States Supreme Court ordered Montgomery to provide equal, integrated seating on public buses. The boycott's success won King national fame and identified him as a symbol of Southern blacks' new efforts to fight racial injustice.

With other black ministers, King founded the Southern Christian Leadership Conference (SCLC) in 1957 to expand the nonviolent struggle against racism and discrimination. At the time, widespread segregation existed throughout the South in public schools, and in transportation, recreation, and such public facilities as hotels and restaurants. Many states also used various methods to deprive blacks of their voting rights. In 1960, King moved from Montgomery to Atlanta to devote more effort to SCLC's work. He became co-pastor of Ebenezer Baptist Church with his father.

The growing movement. In 1960, black college students across the South began sitting at lunch counters and entering other facilities that refused to serve blacks. Civil rights protests expanded further, including major demonstrations in Albany, Ga. Also in the early 1960's, King became increasingly unhappy that President John F. Kennedy was doing little to advance civil rights. Early in 1963, King and his SCLC associates launched massive demonstrations to protest racial discrimination in Birmingham, Ala., one of the South's most segregated cities. Police used dogs and fire hoses to drive back peaceful protesters, including children. Heavy news coverage of the violence produced a national outcry against segregation. Soon afterward, Kennedy proposed a wide-ranging civil rights bill to Congress.

King and other civil rights leaders then organized a massive march in Washington, D.C. The event, called the March on Washington, was intended to highlight African-American unemployment and to urge Congress to pass Kennedy's bill. On Aug. 28, 1963, over 200,000 Americans, including many whites, gathered at the Lincoln Memorial in the capital. The high point of the rally, King's stirring "I Have a Dream" speech, eloquently defined the moral basis of the civil rights movement.

The movement won a major victory in 1964, when Congress passed the civil rights bill that Kennedy and his successor, President Lyndon B. Johnson, had recommended. The Civil Rights Act of 1964 prohibited racial discrimination in public places and called for equal op-

Ebony Magazine



King led the 1963 March on Washington from the Washington Monument to the Lincoln Memorial. His stirring plea for racial equality and justice was a high point of the massive demonstration.

"I Have a Dream"

Following are excerpts from the famous speech given by Martin Luther King, Jr., on Aug. 28, 1963, at the Lincoln Memorial in Washington, D.C.

I say to you today, my friends, so even though we face the difficulties of today and tomorrow, I still have a dream. It is a dream deeply rooted in the American dream.

I have a dream that one day this nation will rise up and live out the true meaning of its creed: "We hold these truths to be self-evident; that all men are created equal." I have a dream that one day on the red hills of Georgia the sons of former slaves and the sons of former slaveowners will be able to sit down together at the table of brotherhood.

I have a dream that my four little children will one day live in a nation where they will not be judged by the color of their skin but by the content of their character.

This is our hope. This is the faith that I go back to the South with. With this faith we will be able to hew out of the mountain of despair a stone of hope. With this faith we will be able to transform the jangling discords of our nation into a beautiful symphony of brotherhood.

With this faith we will be able to work together, to pray together, to struggle together, to go to jail together, to stand up for freedom together, knowing that we will be free one day.

And this will be the day. This will be the day when all of God's children will be able to sing with new meaning, "My country 'tis of thee, sweet land of liberty, of thee I sing. Land where my fathers died, land of the Pilgrims' pride, from every mountainside, let freedom ring."

And if America is to be a great nation, this must become true. So let freedom ring from the prodigious hilltops of New Hampshire. Let freedom ring from the mighty mountains of New York. Let freedom ring from the heightening Alleghenies of Pennsylvania!

Let freedom ring from the snowcapped Rockies of Colorado! Let freedom ring from the curvaceous slopes of California! But not only that; let freedom ring from Stone Mountain of Georgia! Let freedom ring from Lookout Mountain of Tennessee! Let freedom ring from every hill and every molehill of Mississippi. From every mountainside, let freedom ring.

And when this happens, and when we allow freedom to ring, when we let it ring from every village and every hamlet, from every state and every city, we will be able to speed up that day when all of God's children, black men and white men, Jews and Gentiles, Protestants and Catholics, will be able to join hands and sing in the words of the old Negro spiritual, "Free at last! Free at last! Thank God Almighty, we are free at last!"

portunity in employment and education. King later received the 1964 Nobel Peace Prize.

In 1965, King helped organize protests in Selma, Alabama. The demonstrators protested against the efforts of white officials there to deny most black citizens the chance to register and vote. Several hundred protesters attempted to march from Selma to Montgomery, the state capital, but police officers used tear gas and clubs to break up the group. The bloody attack, broadcast nationwide on television news shows, shocked the public. King immediately announced another attempt to march from Selma to Montgomery. Johnson went before Congress to request a bill that would eliminate all barriers to Southern blacks' right to vote. Within a few months, Congress approved the Voting Rights Act of 1965.

The Chicago campaign. By 1965, King had come to believe that civil rights leaders should pay more attention to the economic problems of blacks. In 1966, he helped begin a major civil rights campaign in Chicago, his first big effort outside the South. Leaders of the campaign tried to organize black inner-city residents who suffered from unemployment, bad housing, and poor schools. The leaders also protested against real estate practices that kept blacks from living in many neighborhoods and suburbs. King believed such practices played a major role in trapping poor blacks in urban ghettos.

King and the local leaders also organized marches through white neighborhoods. But angry white people in these segregated communities threw bottles and rocks at the demonstrators. Soon afterward, Chicago officials promised to encourage fair housing practices in the city if King would stop the protests. King accepted the offer, and the Chicago campaign ended.

Later years. Continued violence against civil rights workers in the South frustrated many blacks, including members of the Student Nonviolent Coordinating Committee (SNCC). In 1966, SNCC leaders urged a more aggressive response to the violence and began to use the slogan "Black Power." That phrase troubled King and many white supporters of racial equality. Many people thought the religious, nonviolent emphasis of the civil rights movement was changing. King repeated his commitment to nonviolence, but disputes among civil rights groups over "Black Power" suggested that King no longer spoke for the whole movement.

In 1967, King became more critical of American society than ever before. He believed poverty was as great an evil as racism. He said that true social justice would require a redistribution of wealth from the rich to the



United Press Int.

King was arrested and jailed several times while protesting against injustice and discrimination. From a Birmingham jail, he wrote: "Injustice anywhere is a threat to justice everywhere."

poor. Thus, King began to plan a Poor People's Campaign that would unite poor people of all races in a struggle for economic opportunity. The campaign would demand a federal guaranteed annual income for poor people, as well as other major antipoverty laws.

Also in 1967, King attacked U.S. support of South Vietnam in the Vietnam War (1957-1975). He regarded South Vietnam's government as corrupt and undemocratic. A growing antiwar movement welcomed his comments.

King's death. While organizing the Poor People's Campaign, King went to Memphis to support a black garbage workers' strike. He was shot and killed there on April 4, 1968. James Earl Ray, a white escaped convict, pleaded guilty to the crime in March 1969 and was sentenced to 99 years in prison. Ray later tried to withdraw his plea, but his conviction was upheld. Ray died in 1998.

People throughout the world mourned King's death. King was buried in South View Cemetery in Atlanta. His body was later moved near Ebenezer Baptist Church. On King's tombstone are the words: "Free at last, free at last, thank God Almighty, I'm free at last."

King's assassination produced immediate shock, grief, and anger. Blacks rioted in more than 100 cities. A few months later, Congress passed the Civil Rights Act of 1968, which prohibited racial discrimination in the sale and rental of most housing in the nation.

Years after King's death, some people still doubted that Ray had acted alone. In 1978, a special committee of the U.S. House of Representatives reported the "likelihood" that Ray was aided by others.

In 1974, King's mother was shot and killed while playing the organ in Ebenezer Baptist Church. The gunman, a member of a small religious cult that opposed black Christian ministers, received the death penalty.

In 1980, an area including King's birthplace, church, and burial place became the Martin Luther King, Jr., National Historic Site. In 1983, Congress passed a federal holiday honoring King. The day is celebrated on the third Monday in January. In 1991, the National Civil Rights Museum opened at the site of King's assassination in Memphis. King's son Martin Luther King III was elected president of the Southern Christian Leadership Conference in 1997. David J. Garrow

See also **Atlanta** (picture: The tomb of Martin Luther King, Jr.); **Carter, Jimmy** (Concern for blacks; picture); **King, Coretta Scott; Martin Luther King, Jr., Day; Martin Luther King, Jr., National Historic Site.**

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King, Rufus (1755-1827), was an American statesman and a signer of the Constitution of the United States. He was noted for his early opposition to the expansion of slavery into the nation's western territories.

While representing Massachusetts in the Congress of the Confederation from 1784 to 1786, King proposed that slavery be prohibited in the Northwest Territory. This prohibition became law in the Northwest Ordinance of 1787 (see **Northwest Ordinance**). King served as a U.S. senator from New York from 1789 to 1796 and from 1813 to 1825. In 1819 and 1820, King opposed admitting Missouri to the Union as a slave state. But the territory was admitted with slavery in accordance with the Missouri Compromise (see **Missouri Compromise**).

King was born on March 24, 1755, in Scarboro, Maine, then part of Massachusetts. He moved to New York City in 1786. King represented Massachusetts at the Constitutional Convention in 1787 and helped gain the state's approval of the Constitution. He was ambassador to the United Kingdom from 1796 to 1803 and in 1825 and 1826. He was the Federalist candidate for vice president in 1804 and 1808 and for president in 1816. James C. Curtis

King, Stephen (1947-), is a popular American author of horror fiction. King's fiction demonstrates his brilliant storytelling talent. He skillfully introduces horrifying or suspenseful events into a recognizable everyday background. Many of his stories show his ability to get inside the minds of children and adolescents.

Many of King's novels deal with the supernatural. For example, vampires appear in *Salem's Lot* (1975), and *The Shining* (1977) is set in a haunted hotel. *The Stand* (1978, revised 1990) describes a battle between good and evil that takes place after a plague has wiped out most human beings. *Bag of Bones* (1998) is a ghost story. Several of his supernatural novels are set in the small fictional Maine towns of Castle Rock and Derry. They include *The Dead Zone* (1979), *Cujo* (1981), *The Tommyknockers* (1987), *The Dark Half* (1989), and *Needful Things* (1991).

Several King novels explore realistic suspense instead of the supernatural. Among these are *Misery* (1987), *Gerald's Game* (1992), *Dolores Claiborne* (1993), *Rose Madder* (1995), and *The Green Mile* (1996). King has written four science-fiction novels in his Dark Tower series: *Dark Tower: The Gunslinger* (1982), *The Drawing of the Three* (1989), *The Waste Lands* (1991), and *Wizard and Glass* (1997). King's other novels include *Insomnia* (1994), *Desperation* (1996), *The Girl Who Loved Tom Gordon* (1999), and *Dreamcatcher* (2001). King and American horror author Peter Straub collaborated on two novels, *The Talisman* (1984) and its sequel, *Black House* (2001).

King's short fiction has been collected in *Night Shift* (1978), *Different Seasons* (1982), *Skeleton Crew* (1985), *Nightmares and Dreamscapes* (1993), and *Everything's Eventual* (2002) He analyzed horror literature and films in *Stephen King's Danse Macabre* (1981).

Stephen Edwin King was born on Sept. 21, 1947, in Portland, Maine. He was a teacher until the success of his first novel, *Carrie* (1974), permitted him to write full-time. Jon L. Breen

Additional resources

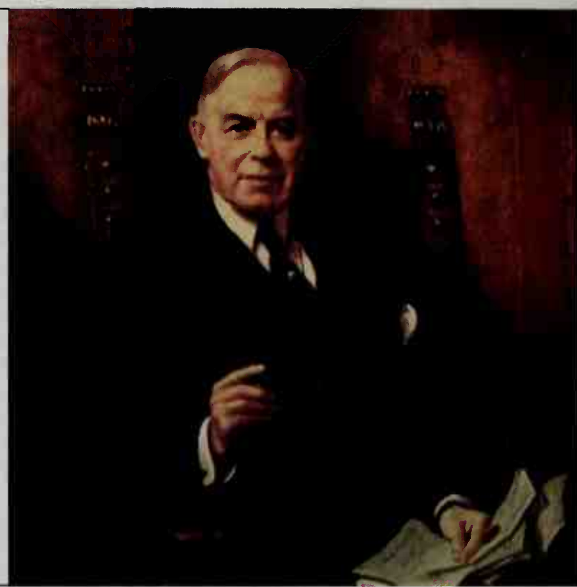
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King, Thomas Starr (1824-1864), was a Unitarian minister, humanitarian, and orator. He helped rally California's support for the Union during the American Civil War (1861-1865). His speeches played an important part in the state's decision not to *secede* (withdraw) from the Union. He raised money for the U.S. Sanitary Commission, which aided wounded soldiers and their families.

King was born on Dec. 17, 1824, in New York City. King was a pastor in Boston from 1848 until 1860. Then he became a pastor in San Francisco. James E. Sefton

W. L. Mackenzie King

Prime Minister of Canada
1921-1926
1926-1930
1935-1948



Detail of a portrait by Frank O. Salisbury; House of Commons, Ottawa (John Evans)



Meighen 1920-1921



King 1921-1926



Meighen 1926



King 1926-1930



Bennett 1930-1935



King 1935-1948



St. Laurent 1948-1957

King, William Lyon Mackenzie (1874-1950), served as prime minister of Canada three times between 1921 and 1948. He held the office a total of 21 years, longer than any other prime minister of Canada. He was leader of the Liberal Party of Canada for 29 years.

King guided Canada to independence and equality with other members of the Commonwealth of Nations. He strengthened the unity between English-speaking and French-speaking Canadians, and he skillfully led Canada through World War II (1939-1945).

Mackenzie King devoted almost his entire adult life to his country. As a university student, his research into labor problems brought him to the attention of Liberal Party leaders. He helped organize Canada's Department of Labour in 1900 and became the first full-time minister of labour in 1909.

King first took office as prime minister in 1921. He served from 1921 to 1926, from 1926 to 1930, and from 1935 to 1948. During his terms as prime minister, King also served as secretary of state for external affairs, except for his last two years in office. His main goals in international relations were independence for Canada and improved cooperation with the governments of Britain and the United States.

Short, stocky, and shy, King did not look like the great statesman he was. He wanted to be popular, but lacked the personality to inspire public affection. Many Canadians thought King was stuffy and old-fashioned, but they greatly respected his political talents. King, a lifelong bachelor, lived alone and had few close friends. "You can control people better," he once said, "if you don't see too much of them."

Early life

Boyhood. Mackenzie King was born in Berlin (now Kitchener), Ont., on Dec. 17, 1874. He was the first son, and the second of the four children, of John King and Isabel Grace Mackenzie King. King's parents were of Scottish descent and were devout Presbyterians. King was proud of his background and remained a loyal Presbyterian all his life.

"Willie," as the family called him, had a happy boyhood. He had deep affection for his brother, Macdougall, and his two sisters, Isabel and Janet. When King was about 8 years old, the family moved to a large house called Woodside on the outskirts of town. There he developed a love of the outdoors. He was mischievous and liked to play jokes, but was a serious student.

King's father was a lawyer and an outstanding speaker. Both parents had a strong interest in current events and discussed them in front of the children. King later recalled: "Any idea I may have had as a boy of entering public life was certainly inspired by the interest which my parents took in political affairs. The story of my grandfather's struggles in the early history of Ontario fired my imagination. . . ."

In later life, King liked to contrast the two sides of his family. His grandfather on his father's side, John King, had been a British Army officer in Canada during the Rebellions of 1837 (see **Rebellions of 1837**). His grand-

father on his mother's side, William Lyon Mackenzie, had led one of the rebellions in the colony of Upper Canada (see **Mackenzie, William Lyon**). King claimed he inherited devotion to the British monarch from one grandfather and devotion to the Canadian people from the other. But Mackenzie, for whom King was named, most influenced his life. King's mother was born in New York, where Mackenzie had been living in exile. She was the dominant personality in the household and gave her son the ambition to clear Mackenzie's reputation. When King was about 22, he began to sign his name in the way that later became famous: W. L. Mackenzie King.

Education. In 1891, King entered the University of Toronto. He became known as a good debater. His pals nicknamed him "Rex," and a few close friends called him that throughout his life. During his senior year, King was one of the leaders in a student strike against school officials. The students refused to attend classes partly to protest the dismissal of a professor who had criticized the administration. The boycott led to an investigation by the government of Ontario.

While in college, King could not decide whether to become a lawyer or a minister. He developed an interest in social work that lasted all his life. King met Jane Addams, founder of Chicago's Hull House, when she visited Toronto in 1895. His interest in social work grew as she described her settlement house (see **Hull House**).

After his graduation in 1895, Mackenzie King worked as a newspaper reporter for a year. He studied law in his father's office at night, and received his law degree from the University of Toronto in 1896. That same year, King went to the University of Chicago on a fellowship. Jane Addams invited him to live at Hull House, and King eagerly accepted. But he soon found the combination of school and social work too burdensome. He left Hull House to concentrate on his studies. While in Chicago, he completed a thesis that earned him a master's degree from the University of Toronto.

Life in Chicago's slums made a deep impression on King. After he returned to Toronto in 1897, he investigated labor conditions there. He found many abuses, and wrote four newspaper articles exposing them.

King found postmen's uniforms being produced in sweatshops (see **Sweatshop**). He indignantly reported this to William Mulock, the postmaster general of Canada. Mulock asked King to recommend ways to protect the clothing workers. King's suggestions led to the Fair Wages Resolution passed by Parliament.

In 1897, King received a scholarship from Harvard University. He spent two years there and did outstanding work. In 1899, Harvard renewed the scholarship with the privilege of study abroad. King went to London, where he again lived in a settlement house and continued to study social and labor problems.

While visiting Rome in 1900, King received a cable from Mulock. The Canadian government wanted King to be the editor of its new *Labour Gazette.* King hesitated. He had also been offered a teaching position at Harvard. But he decided to edit the *Labour Gazette.* The decision changed the course of his life.

Early political and public career

The founding of the *Labour Gazette* was the first step in the establishment of a Department of Labour in the Canadian government. Postmaster General Mulock was given the added title of minister of labour. On Sept. 15, 1900, King was appointed deputy minister of labour. He was only 25 years old.

King traveled around the country helping to settle labor disputes. He soon earned a reputation for fairness. To some extent, Canada's industrial relations laws are still based on the Industrial Disputes Investigation Act of 1907, which King drew up.

In 1908, King resigned as deputy minister and ran for Parliament. He won the Liberal nomination in the North Waterloo, Ont., district where he was born, then won the election. In 1909, Liberal Prime Minister Wilfrid Laurier appointed King the first full-time minister of labour. The Liberal government was defeated in 1911, and King also lost his seat in Parliament.

In 1912, King organized the Liberal Information Office and became editor of the party publication, the *Canadian Liberal Monthly.* Then, about a year later, tragedy struck his family. King's brother, a doctor, developed tuberculosis and had to give up his practice. His father went blind and had to retire from the practice of law. His mother's health was failing. King was forced to support the family, though he had little money.

The solution to King's financial problem came in 1914. The Rockefeller Foundation asked him to direct its Department of Industrial Relations. With his salary, King could care well for his family. While with the foundation, King published his political philosophy in a book called *Industry and Humanity* (1918). The book, which urges establishment of a welfare state, strengthened King's reputation as a progressive thinker.

King's father died in 1916, and his mother died the next year. His brother Macdougall fought his illness bravely, and wrote two books before his death in 1922.

In 1917, Mackenzie King again ran for Parliament. The Liberal leader, Sir Wilfrid Laurier, sided with the French-speaking people of Quebec in opposing World War I *conscription* (drafting men for military service). King was one of the few English-speaking Liberal former government ministers who stayed loyal to Laurier on the conscription issue, though he was troubled by it. But King was defeated, as were most of Laurier's other supporters outside Quebec.

Laurier died in 1919. The Liberal Party chose King as leader because he seemed the best person to deal with labor unrest and because he had supported Laurier during the conscription crisis. This made him acceptable to French-Canadian Liberals. King immediately set to work to reunite the English-speaking and French-speaking members of the party. He was elected to Parliament from Prince County, P.E.I., shortly after his election as Liberal leader.

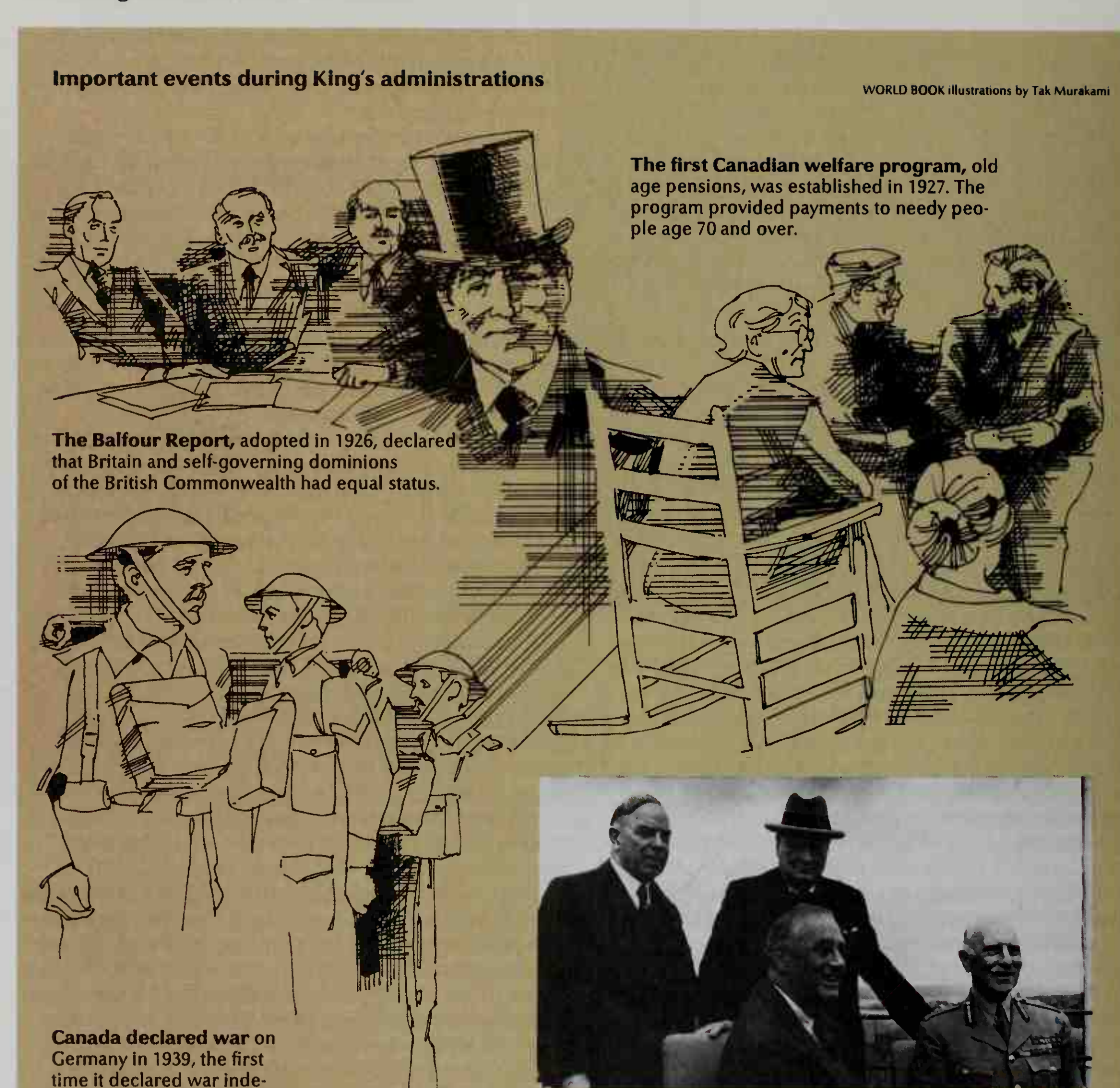
First term as prime minister (1921-1926)

The Liberal Party took control of Parliament after the general election of December 1921. It held 117 out of 235 seats. King became prime minister of Canada on Dec. 29, 1921, succeeding Arthur Meighen, a Conservative.

King took office at a time of falling prosperity. Postwar inflation had driven prices up. The years ahead appeared uncertain. King lowered tariff rates to increase trade. In 1924, the government balanced its budget for

Important events during King's administrations

WORLD BOOK illustrations by Tak Murakami



The first Canadian welfare program, old age pensions, was established in 1927. The program provided payments to needy people age 70 and over.

The Balfour Report, adopted in 1926, declared that Britain and self-governing dominions of the British Commonwealth had equal status.

Canada declared war on Germany in 1939, the first time it declared war independently. Parliament authorized a draft in 1942, and Canada began drafting men for active duty in 1944.

National Film Board

King hosted meetings attended by World War II leaders Winston Churchill, *standing center,* and Franklin D. Roosevelt in 1943 and 1944. The governor general, the Earl of Athlone, is at the right.

the first time since 1913. The government-owned Canadian National Railways, which had been losing money, showed a profit.

King's outstanding first-term achievement was the enhancement of Canadian self-government in international relations. In 1922, he refused to support Great Britain in a possible war with Turkey. In 1923, Canada for the first time signed a treaty alone with another country. This treaty regulated halibut fishing in the Pacific Ocean. At the Imperial Conference of 1923, King successfully opposed British efforts to have a common foreign policy for the entire British Empire.

In the general election of 1925, the Liberals lost ground while the Conservatives gained. King himself was defeated in North York, Ont. But Parliament gave his government a vote of confidence, and he remained prime minister. In February 1926, King ran for Parliament in a by-election in Prince Albert, Sask., and won.

By June 1926, King saw that his government faced de-

Important dates in King's life

1874 (Dec. 17) Born in Berlin (Kitchener), Ont.
1908 Elected to Parliament.
1909 (June 2) Became minister of labour.
1919 Elected leader of the Liberal Party.
1921 (Dec. 29) Became prime minister of Canada.
1926 (June 28) Resigned as prime minister.
1926 (Sept. 25) Became prime minister for second time.
1930 (Aug. 7) Resigned as prime minister.
1935 (Oct. 23) Became prime minister for third time.
1948 (Nov. 15) Retired as prime minister.
1950 (July 22) Died at Kingsmere, near Ottawa.

feat in the House of Commons. He advised Governor General Julian Byng to dissolve Parliament and call an election. Byng refused, and so King resigned as prime minister. Conservative Party leader Arthur Meighen formed a government, but he quickly lost a vote of confidence in Parliament. Meighen advised Byng to dissolve Parliament. This time, the governor general did so.

Could a British governor general lawfully refuse the advice of a Canadian prime minister? King made this question the main issue in the election that followed. The Liberals won a substantial victory.

Second term as prime minister (1926-1930)

Mackenzie King again became prime minister on Sept. 25, 1926. He continued his fight for full Canadian self-government at the Imperial Conference of 1926. The conference adopted a report which stated that the United Kingdom and all the self-governing dominions of the Commonwealth had equal status.

The first Canadian federal welfare program began in 1927 with the establishment of old-age pensions. King also favored unemployment insurance but could not persuade the provinces to support it until 1940. A worldwide depression began in 1929. Unemployment became a major problem that Canada was unprepared to fight.

Unemployment became the main issue in the 1930 election, and King's government was defeated. The Conservatives, under Prime Minister Richard B. Bennett, led Canada for the next five years. By 1935, the Great Depression had taken its toll on Canada. In the election that year, the people probably voted more against Bennett than for King. The Liberals won with the largest majority in Canadian history to that time.

Third term as prime minister (1935-1948)

On Oct. 23, 1935, King began his greatest period as prime minister. The government promoted freer trade to increase employment, and it negotiated major trade agreements with the United States and the United Kingdom. King appointed a Royal Commission to find ways of rebuilding the finances of the provinces.

But foreign affairs overshadowed events at home. King came to realize that a war in Europe was inevitable. He reasoned that if the British became involved in it, English-speaking Canadians would insist on joining them, while French-speaking Canadians would prefer to stay out of the war. King tried to follow a course to ensure Canadian unity if the nation went to war. He was convinced that the decision must be made by Canadians in their own Parliament. When World War II did come, Parliament almost unanimously supported the government's decision to participate. Canada declared war on Germany on Sept. 10, 1939; against Italy on June 10, 1940; and on Japan on Dec. 8, 1941.

King skillfully avoided a national crisis over conscription. Most French Canadians still opposed a military draft. To maintain harmony between English Canadians and French Canadians, King side-stepped the issue as long as possible.

In 1942, Canadians voted to release the government from its pledges not to draft soldiers for service overseas. Parliament authorized conscription that same year, but King did not put it into effect. At this time, King uttered his most famous phrase: "Not necessarily conscription, but conscription if necessary."

By late 1944, the Canadian units overseas, made up entirely of volunteers, badly needed replacements. King then agreed to send draftees overseas, and Parliament supported him. The policy succeeded because of (1) King's determination to maintain harmony between English Canadians and French Canadians, and (2) the cooperation of most French-speaking representatives in the Canadian government.

King tried to serve as a link between Prime Minister Winston Churchill and President Franklin D. Roosevelt during World War II. He understood the views of both Britain and the United States. He helped Churchill and Roosevelt reach agreement on some issues.

Canada came out of the war stronger and more united than before. In the 1945 election, King led the Liberals to victory by a narrow margin. The victory was a tribute to King's success in managing the war, helping increase Canadian industrialization, and preserving Canadian unity during wartime.

After the war, Canada avoided the depression that many had feared. Welfare legislation and increased government spending stimulated the economy. King maintained Canada's wartime alliance with the United States. He also helped start secret negotiations that led to the signing of the North Atlantic Treaty in 1949.

King's government also took steps toward making Newfoundland a province of Canada. Newfoundland (now Newfoundland and Labrador) became the 10th province shortly after King retired.

In January 1948, King announced that he would retire that year. He was 73, and his health had been failing. The Liberal Party elected Louis St. Laurent, King's choice, as its new leader. King made a farewell tour of France and England. While abroad, he became critically ill. King retired as prime minister of Canada on Nov. 15, 1948. However, he remained a member of the Canadian Parliament until April 1949.

Retirement and death

King spent the last year of his life at Kingsmere, his country home in the Gatineau Hills near Ottawa. In his will, King left Kingsmere and his Ottawa home, Laurier House, to Canada. During his last lonely months, King's health grew steadily worse. He was deeply religious. King also believed in a spiritual world and often tried to speak with the dead, particularly his mother, through séances. King died on July 22, 1950. He was buried in Toronto. J. L. Granatstein

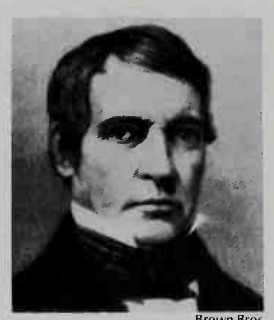
Related articles in *World Book* include:

Bennett, Richard B.
Byng, Julian Hedworth George
Canada, Government of
Canada, History of
Laurier, Sir Wilfrid
Meighen, Arthur
Political party (Political parties in Canada)
Prime minister of Canada
Saint Laurent, Louis S.
World War II (On the home front)

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Granatstein, J. L. *Canada's War: The Politics of the Mackenzie King Government, 1939-1945.* 1975. Reprint. Univ. of Toronto Pr., 1990.
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King, William Rufus Devane (1786-1853), was elected vice president of the United States in 1852 to serve under President Franklin Pierce. King was seriously ill at the time. By special act of Congress, he was permitted to take his oath of inauguration before an American consul in Havana, Cuba, where he was trying to recover from the illness. He died six weeks later, without ever performing the duties of vice president.


Brown Bros.
William Rufus King

King served in the United States House of Representatives from 1811 to 1816 as a Democrat from North Carolina, and in the U.S. Senate as a Democrat from Alabama from 1819 to 1844, and from 1848 to 1852. He also served as minister to France from 1844 to 1846. King was born in Sampson County, North Carolina. He graduated from the University of North Carolina in 1803 and practiced law.

Michael F. Holt

King Arthur. See Arthur, King.

King crab. See **Horseshoe crab.**

King George's War. See **French and Indian wars** (King George's War).

King-Horn is the most important character in the first known English romance in verse, also named *King-Horn.* The poem dates from the late 1200's. The poem describes the adventures of King-Horn, a child of the king and queen of the Isle of Man. Ellen J. Stekert

King James Version. See **Bible** (The King James Version).

King Peak is one of the 10 highest mountains in North America. It towers 16,972 feet (5,173 meters) in the St. Elias Mountains of the Yukon Territory in northwestern Canada. Bradford Washburn, an explorer, discovered it in 1935.

King Philip's War. See **Philip, King; Indian wars** (King Philip's War).

King Ranch is one of the largest privately owned ranches in the United States. The huge ranch, which raises cattle and quarter horses, covers about 825,000 acres (334,000 hectares) in southern Texas. Richard King, a steamboat captain, founded the ranch in 1853. His descendants still own and operate the property. The ranch headquarters are in Kingsville, Texas.

King snake. See Kingsnake.

King William's War. See **French and Indian wars.**

Kingbird, also called *bee martin,* is a type of bird in the flycatcher family. The *eastern kingbird* is helpful to farmers because it eats so many insects. It makes its home in all parts of the United States except the Southwest, and also lives in southern Canada. Six other kinds of kingbirds are found in the United States.

The eastern kingbird has white-tipped tail feathers and white underparts. This bird has a patch of bright orange-red feathers on top of its black head. These feathers usually are not visible.

The kingbird gets its name from the way it attacks and drives off other birds, especially crows and hawks. It attacks them furiously in the air and makes them change course. The kingbird does this mainly during the breeding season, to protect its nest, mate, and young. The kingbird feeds on insects. Its other name, *bee martin,* comes from its reported fondness for bees. However, scientists have found that the kingbird actually eats very few bees. Fred J. Alsop, III


WORLD BOOK illustration by John Rignall, Linden Artists Ltd.
The eastern kingbird has white-tipped tail feathers and white underparts. It lives in the United States and Canada. It aids farmers by feeding on insects that are harmful to crops.

Scientific classification. Kingbirds are in the flycatcher family, Tyrannidae. The scientific name for the eastern kingbird is *Tyrannus tyrannus.*

See also **Flycatcher; Bird** (picture: Birds of grasslands).

Kingdom is the largest unit of biological classification. All living organisms belong to a kingdom, but no organism belongs to more than one. Scientists group organisms in a kingdom because the organisms share certain basic characteristics. Most biologists recognize five kingdoms of organisms. These kingdoms are (1) Prokaryotae (prokaryotes), (2) Protista (protists), (3) Fungi (fungi), (4) Plantae (plants), and (5) Animalia (animals). Scientists do not classify viruses in any kingdom because these microbes are not considered living organisms. Unlike living organisms, viruses do not consist of cells (see **Virus**).

Prokaryotae is made up of bacteria and blue-green algae, also known as *cyanobacteria.* Prokaryotes are simple, one-celled organisms that can only be seen with a microscope. Prokaryote cells lack specialized parts called *organelles* and thus differ from other living cells. For example, in all other living cells, genetic material is concentrated in an organelle called the *nucleus.* Prokaryote cells have genetic material, but they do not have a nucleus. See **Prokaryote.**

Protista consists chiefly of microscopic organisms, such as diatoms and protozoans, that often live in colonies. Most protists, like prokaryotes, consist of a single cell. All other living things are *multicellular*—that is, they are made up of many cells.

Unlike the monerans, protists have a well-defined nucleus in their cells. Many also have specialized body

parts that they use to gather food and to move in their environment. Scientists divide protists into groups based on how these organisms move about. For example, *ciliates* move by beating hairlike structures called *cilia*. *Zooflagellates* use a long tail called a *flagellum* to move. See **Protist**.

Fungi are multicellular organisms that obtain their food from dead or living organic matter. Organisms in this kingdom include molds, mushrooms, and yeasts. Fungi secrete certain proteins called *enzymes* into the plants, animals, and decaying organisms on which they live. The enzymes help to break organic molecules into nutrients that the fungus can absorb. See **Fungi**.

Plantae is made up of such multicellular organisms as flowering plants, grasses, and trees. Most plants make their own food in a complex process called *photosynthesis* (see **Photosynthesis**). However, some flowering plants live on other plants and absorb their food. Plants are essential to the cycle of nature and provide food for animals and other organisms. See **Plant**.

Animalia consists of multicellular organisms that *ingest* (take in and digest) their food. Animals depend on plants or on animals that eat plants for food. Animals have the most complex body features of living things. The cells of most animals are organized into tissues that perform special tasks. The tissues form organs—such as the brain, heart, and stomach—that, in turn, make up organ systems. See **Animal**. Theodore J. Crovello

See also **Classification, Scientific**.

Kingdom of the Two Sicilies. see **Sicilies, Kingdom of the Two**.

Kingfish is the name given to many different fishes. These include two important food fishes of the mackerel family and several species of the drum family.

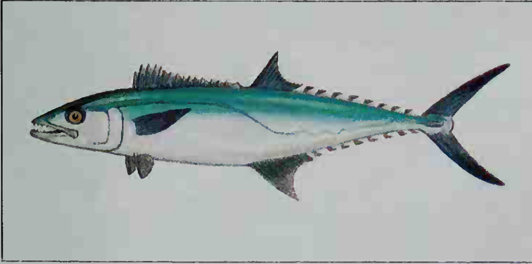
The *king mackerel,* or *kingfish,* belongs to the same family as the Spanish mackerel. It lives in the Atlantic Ocean from Brazil to Cape Cod. This fish usually weighs about 5 pounds (2.3 kilograms), but large ones may grow to $5\frac{1}{2}$ feet (1.7 meters) long and weigh almost 80 pounds (36 kilograms). Like the Spanish mackerel, it has a sharp, V-shaped tail fin and a bluish back, but it is longer and heavier. A related species, the *cero,* is also called *kingfish.* It is usually found around coral reefs, especially near the Florida Keys.

The *northern kingfish, southern kingfish,* and *gulf kingfish* are found in shallow coastal waters of the Atlantic. They grow from 15 to 18 inches (38 to 46 centimeters) long. They are grayish brown above with silvery sides. The northern kingfish has dark bars on the body. The world *kingfish* is also applied to a number of related species of fishes found off Australia, Southeast Asia and India, and California.

Some types of kingfishes are popular among sports enthusiasts. The king mackerel has been heavily fished along the Atlantic coast of the United States. As a result, the government has imposed strict limits on commercial and recreational fishing of this species.

Scientific classification. The king mackerel belongs to the mackerel family, Scombridae. Its scientific name is *Scomberomorus cavalla.* The cero is *S. regalis.* Other kingfishes belong to the drum family, Sciaenidae. William J. Richards

See also **Mackerel**.



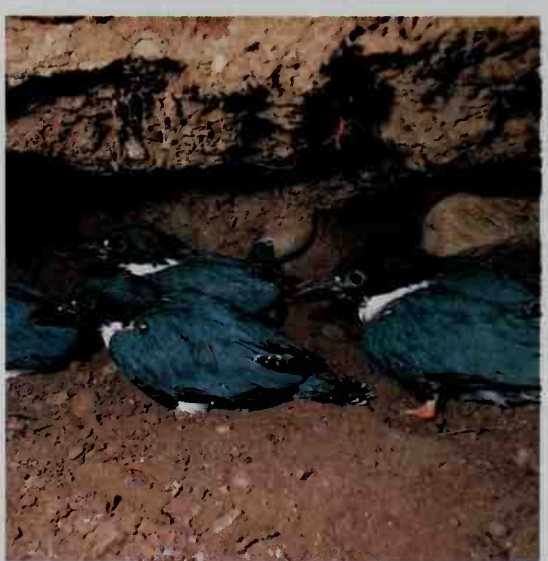
WORLD BOOK illustration by John F. Eggert

The king mackerel has a sharp, V-shaped tail fin and a bluish back. This type of kingfish lives in the Atlantic Ocean and is an important food fish.

Kingfisher is the name of a large family of birds that have large heads and long, heavy, pointed bills. There are about 85 species of kingfishers. Many of them have a crest on the top of the head. All kingfishers have short legs and short stubby tails. The outer and middle toes of these birds are joined together by strong membranes. Kingfishers live throughout the world.

The kingfisher family is made up of both woodland and water birds. The *kookaburra,* commonly found in Australia, is an example of a woodland kingfisher (see **Kookaburra**). The *belted kingfisher,* a water bird, is the only species commonly found in the United States. This bird is 11 to 14 inches (28 to 36 centimeters) long. Its upper parts and wings are colored deep blue, or bluish-gray with white markings. The underparts are white, and there is a broad collar of white around the neck. There is also a blue-gray band across the breast. The female has a rust-colored band below the blue-gray one.

The belted kingfisher may spend long hours sitting on a branch alongside a body of water watching for small fish that swim near the surface. Then, sometimes hovering for a moment in midair, the bird dives after a fish. Kingfishers usually seize their food, but they some-



Mary Stouffer, Animals Animals

Belted kingfishers nest in burrows in riverbanks or sandbanks. The female lays five to seven eggs in the spring. After the eggs hatch, the parents feed the young birds tiny fish.

times spear fish with their long bills. Then the fish is tossed into the air, caught, and swallowed headfirst. Kingfishers also eat crayfishes, frogs, tadpoles, salamanders, and insects.

Belted kingfishers burrow in the steep walls of riverbanks or sandbanks. They dig a tunnel from 4 to 15 feet (1.2 to 4.6 meters) long with a larger hollow at the end where the birds build a nest of fish bones and scales. The female lays five to seven glossy white eggs. The male and female take turns sitting on the eggs.

Scientific classification. Kingfishers make up the kingfisher family, Alcedinidae. The scientific name for the belted kingfisher is *Megaceryle alcyon.* Eric G. Bolen

See also **Bird** (picture: Birds of inland waters).

Kinghead. See **Ragweed**.

Kinglet is the name of several tiny songbirds found in the Northern Hemisphere. Kinglets measure about 4 inches (10 centimeters) long. They are olive-green, with a brightly colored patch on top of the head. They flit about rapidly, looking for insects. Two species, the *golden-crowned kinglet* and the *ruby-crowned kinglet,* live in North America.



WORLD BOOK illustration by Trevor Boyer, Linden Artists Ltd.

The golden-crowned kinglet is one of two species of kinglets that live in North America. This small bird gets its name from the yellow patch on top of its head.

Kinglets live in evergreen trees. Their cup-shaped nests hang near the tips of branches. The nests are made of moss, grass, and feathers. The female lays from 5 to 11 creamy-white eggs that have brown spots. Many golden-crowned kinglets stay in North America during winter. Most ruby-crowned kinglets fly to the southern part of the United States or to Central America until spring.

Scientific classification. Kinglets belong to the subfamily Silviinae of the family Muscicapidae. Martha Hatch Balph

See also **Bird** (picture: Birds of forests and woodlands; Birds' eggs).

Kingmaker. See **Warwick, Earl of.**

Kings, Books of, are two books in the Old Testament. They are grouped as one book in the Hebrew Bible. The books begin just before the death of King David, about 965 B.C., and cover almost 400 years of events. Kings conclude with the collapse of the Kingdom of Judah and the exile of many Judeans to Babylon in 587 or 586 B.C. For more information on these events, see **Jews** (The divided kingdom; Foreign domination). The Books of Kings mention all the kings of Israel and Judah. Some kings, such as Solomon, Ahab, Hezekiah, and Josiah, are discussed much more extensively than the other kings.

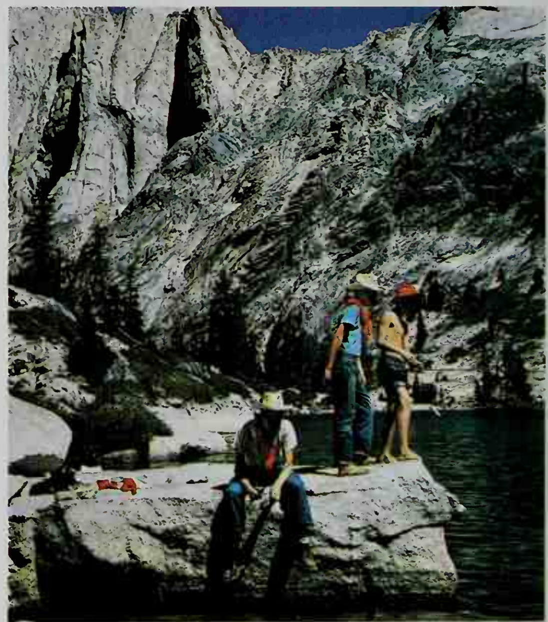
The Books of Kings were probably compiled during the exile, using court records and other historical information in order to sustain hope for national revival. But they should not be considered strict history. The books select and interpret events according to the idea that God demanded obedience and loyalty. They evaluate every king according to whether or not "he did what was evil/right in the sight of the Lord." Carol L. Meyers

See also **Bible** (Books of the Hebrew Bible).

Kings Canyon National Park is a scenic wilderness in east-central California. It has some of the highest peaks of the Sierra Nevada mountains, and some of the country's oldest and largest giant sequoia trees. For location, see **California** (physical map).

The Grant Grove section of the park has trees that are 2,000 to 3,000 years old. The largest and most famous of these trees is the General Grant. It rises 267 feet (81 meters), and has a base circumference of 107.6 feet (32.8 meters). Grant Grove's second largest tree is the General Lee Tree. The park also has huge pine trees.

The Kings River portion of the park lies northeast of Grant Grove. There, the south and middle forks of the winding Kings River carve out Tehipite Valley Canyon and Kings Canyon. The walls of Kings Canyon are 2,500 to 5,000 feet (762 to 1,500 meters) high. Snow-capped mountains tower above the canyons. Much of the park



National Park Service

King's Canyon National Park in California has snow-capped mountains dotted with ancient sequoia trees. Visitors can hike along trails or fish in the rivers that run through the canyons.

can be reached only by trail. Sequoia National Park lies south of Kings Canyon National Park (see **Sequoia National Park**). Kings Canyon National Park was established in 1940. For the area, see **National Park System** (table: National parks). Critically reviewed by the National Park Service

King's College, University of, was founded in Windsor, Nova Scotia, in 1789. It is recognized as the oldest English-speaking university in the Commonwealth of Nations. The college was destroyed by fire in 1920. King's was reestablished in Halifax in 1923, with its arts and sciences faculty in association with Dalhousie University. King's divinity program is taught by the Atlantic School of Theology, the recognized School of Divinity for the Anglican Dioceses of Nova Scotia and Fredericton. All degrees, except those from King's School of Journalism and the Atlantic School of Theology, are granted through Dalhousie.
Critically reviewed by the University of King's College

Kings Mountain, Battle of. See **Revolutionary War in America** (Kings Mountain; table: Major battles).

Kingsley, Charles (1819-1875), was a famous English author and clergyman. He preached "Christian Socialism," a religious and political philosophy that urged the Church of England to take an active part in easing social problems. Kingsley's first two novels, *Alton Locke* (1850) and *Yeast* (1851), are examples of the Christian Socialism philosophy. The novels deal with working-class conditions in Victorian England. Kingsley believed in developing a strong body along with a pious spirit. This belief was sometimes called *muscular Christianity.* Kingsley's novel *Hypatia* (1853) shows this attitude.

Westward Ho! (1855), a historical novel full of high adventure, is set in the days of Queen Elizabeth I. *The Water Babies, A Fairy Tale for a Land-Baby* (1863), written for his son, is a charming fantasy about a young chimney sweep who escapes from his dismal occupation into a marvelous underwater kingdom.

Kingsley was born on June 12, 1819, in Devon. He became a minister in the Church of England in 1842. For a time, he served as chaplain to Queen Victoria. He also taught history at Cambridge University. Kingsley was highly critical of Roman Catholicism. He became involved in a famous controversy with John Henry Cardinal Newman. Kingsley wrote a pamphlet that questioned Newman's motives and sincerity. This pamphlet led the cardinal to write his well-known autobiography *Apologia pro Vita Sua* (1864). Kingsley died on Jan. 23, 1875.
K. K. Collins

Kingsley, Mary Henrietta (1862-1900), was a British explorer, traveler, and pioneer social anthropologist. Her two books on her travels to western Africa, *Travels in West Africa* (1897) and *West African Studies* (1899), influenced later generations of anthropologists, historians, and policymakers. She also wrote numerous magazine and newspaper articles and gave many lectures on African matters. She supported British commercial interests in Africa, but she argued that African cultures should be respected.

Kingsley was born on Nov. 13, 1862, in London. She was raised in a middle-class family that believed the proper place for women was in the home caring for the family. She wrote in favor of this belief, though she lived most of her adult life otherwise. From 1893 to 1895, Kingsley twice traveled to western Africa to study the peoples, cultures, and animal life there. In 1895, she became the first European woman to climb Mount Cameroon, one of the highest peaks in Africa. She died on June 3, 1900. Cora Ann Presley

Kingsley, Sidney (1906-1995), was an American dramatist who probed the complex problems of individuals interacting with social conditions. Kingsley's play *Men in White* (1933) won a Pulitzer Prize. It deals with the medical and moral problems of doctors. *Dead End* (1935) dramatizes the destructive effects of economic inequality. *The Patriots* (1943) studies the significance of the conflicts between Thomas Jefferson and Alexander Hamilton.

Detective Story (1949) and *Darkness at Noon* (1951) are Kingsley's most complex studies of the individual conscience. The first concerns the individual in conflict with the law. The second describes the individual in conflict with Communism. Kingsley was born Sidney Kieschner on Oct. 18, 1906, in New York City. He died on March 20, 1995. Frank R. Cunningham

Kingsnake is any one of a group of snakes, all of which prey on other snakes. These reptiles are harmless to people. They are somewhat immune to snake venom and do not hesitate to attack and eat rattlesnakes. Kingsnakes also eat bird and turtle eggs, and rodents and other small animals. They coil around their prey and squeeze it to death. Kingsnakes range in length from 1 $\frac{1}{2}$ to 6 feet (46 to 180 centimeters). They may be marked with black, brown, white, red, or yellow bands or rings.

The *common kingsnake* is black with narrow yellow bands across its back and reaches a length of about 3 $\frac{1}{2}$ feet (107 centimeters). This snake lives in the eastern United States. D. Bruce Means

Scientific classification. Kingsnakes belong to the common snake family, Colubridae. The scientific name for the common kingsnake is *Lampropeltis getulus.*

See also **Milk snake.**

Kingston (pop. 104,041; met. area pop. 524,638) is the capital and chief port of Jamaica, an island nation in the



© Denis Valentine, Corbis Stock Market

Kingston, the capital of Jamaica, is also the commercial and cultural center of the nation. The city's downtown area has many modern office buildings and luxurious hotels.

West Indies. It lies on the southeastern coast of Jamaica, at the northern end of a nearly landlocked harbor (see **Jamaica** [map]). Kingston serves as the cultural, commercial, and industrial heart of Jamaica. Principal industries include food processing, oil refining, and the production of cement and other building materials. Tourism is also an important source of income for the city.

Kingston was founded in 1693, after an earthquake destroyed the city of Port Royal. Kingston replaced Port Royal as the center of Jamaican business. In the mid-1700's, the British rulers of Jamaica declared Kingston a *free port,* a place where ships of other countries could trade. The British West Indies had few such ports. Kingston became the capital of Jamaica in 1872.

Kingston has suffered many disasters, including hurricanes in 1880, 1951, 1980, and 1988; a fire in 1882; and an earthquake in 1907. Much of the city has been rebuilt over time. Today, the sprawling Kingston metropolitan region covers an area larger than many Caribbean islands. Wyvolyn Gager

Kingston upon Hull. See Hull.

Kingstown (pop. 18,830) is the capital and largest city of St. Vincent and the Grenadines. It lies along a bay on the southeast coast of St. Vincent Island. Kingstown's harbor serves the import and export trade that is the basis of the city's economy. Fort Charlotte, a former British fort, overlooks the city. The Botanic Garden, the oldest such garden in the Americas, dates to 1765. It contains a breadfruit tree grown from the original plant brought from Tahiti by the British sea captain William Bligh (see **Bligh, William**).

Carib Indians lived in the Kingstown area, probably as early as the 1300's. English and French settlers began to arrive there in the 1600's. Britain (later the United Kingdom) governed St. Vincent Island from 1783 to 1979, when the independent country of St. Vincent and the Grenadines was formed. Gerald R. Showalter

See also **Saint Vincent and the Grenadines** (picture; map).

Kinkajou, *KIHNG kuh joo,* is a member of the raccoon family that can hang from tree branches by its long tail. The kinkajou has a slim body and grows about 3 feet (91 centimeters) long, including the tail. It has dense, woolly, yellow-brown fur. Kinkajous live in tropical forests from southern Mexico to Brazil. They hide in tree holes during the day and feed at night on fruit and insects. The female kinkajou may bear one or two young a year.

Hugh H. Genoways

Scientific classification. The kinkajou belongs to the raccoon family, Procyonidae. Its scientific name is *Potos flavus.*

See also **Coati; Raccoon.**

Francisco Erize, Bruce Coleman Ltd.

The kinkajou uses its long flexible tail for balance in trees. It can hang head-downward, with its tail grasping a limb.

Kinnock, Neil Gordon (1942-), served as leader of the United Kingdom's Labour Party from 1983 until 1992. He was 41 years old when he was elected party leader in 1983, and became the youngest leader in the party's history. He was a member of the party's left wing, which called for increased government ownership of businesses and unilateral nuclear disarmament. But he later moved away from some of the left-wing views.

Kinnock was born on March 28, 1942, in the village of Tredegar in southern Wales. His father was a coal miner. Kinnock joined the Labour Party in 1957, when he was only 15. In 1965, he graduated from the University of Wales, Cardiff. Kinnock was first elected to the British House of Commons in 1970. There, he became known for his dramatic style of speechmaking and his left-wing views. He was elected to succeed Michael Foot as Labour Party leader in 1983. As Labour leader, Kinnock promoted cooperation between the party's left wing and moderate wing. He resigned as the party's leader after it lost parliamentary elections in 1992. Richard Rose

Kino, *KEE noh,* **Eusebio,** *ay oo ZA byoh,* **Francisco** (1645-1711), was a Roman Catholic priest and explorer who founded at least 24 missions in the area that is now southern Arizona and northern Mexico. He also mapped much of the American Southwest.

Kino was born on Aug. 10, 1645, in Segno, Italy. He joined the Society of Jesus (Jesuits), a Catholic order that did missionary work throughout the world. The Jesuits sent Kino to Mexico, and he arrived there in 1681. He preached to the Indians he met and gave them foods and animals they never had seen, including grains, cattle, sheep, and mules. Kino traveled as far west as California. He gained fame for a map that proved southern California was not an island, as most Europeans then believed. He died on March 15, 1711.

San Xavier del Bac, a mission that Kino opened near present-day Tucson, Arizona, is still used as a church. A statue of Kino represents Arizona in Statuary Hall in the United States Capitol. John S. Goff

Kinsey, *KIHN zee,* **Alfred Charles** (1894-1956), an American biologist, was one of the first scientists to study human sexual behavior. His research, which began in the late 1930's, contributed important insight into relationships among human beings.

Kinsey's interest in sex research began when he was a zoology professor at Indiana University in Bloomington, Indiana. While teaching a marriage course, he realized that scientists had little knowledge about human sexual practices. Kinsey began to interview people about their sexual behavior and attitudes. He received grants to help finance his studies. In 1947, Kinsey founded the Institute for Sexual Research at the university.

Kinsey and his colleagues interviewed thousands of men and women in the United States and Canada. The interviews formed the basis of Kinsey's books, *Sexual Behavior in the Human Male* (1948) and *Sexual Behavior*

in the Human Female (1953). The two books became known as *The Kinsey Report.* Both were best sellers, though they had been written for physicians, sociologists, and other professionals. They created controversy because many people charged they were immoral and some scientists considered them unscientific.

Kinsey was born on June 23, 1894, in Hoboken, New Jersey. He graduated from Bowdoin College in 1916 and received a Doctor of Science degree from Harvard University in 1920. He became known for his studies of gall wasps before entering sex research. Martin Weisberg

Kinshasa, *KIHN shah sah* (pop. 2,222,981), is the capital and largest city of the Democratic Republic of Congo, also known as Congo (Kinshasa). The city lies on the south bank of the Congo River, in the far western part of the country. For location, see the map in **Congo** (Kinshasa). Kinshasa is the nation's center of government, light industry, and transportation.

The city. The main section of Kinshasa stretches along the river bank and includes government offices, stores, high-income housing, and the largest campus of the country's National University. Industrial zones spread east and west of this area.

An area of older, low-income housing extends south from the river, and most of Kinshasa's people live there. A wealthy suburb is southwest of the city. Squatter zones, where Kinshasa's poorest people live in mud-brick dwellings, form an arc around the city.

The population of Kinshasa has grown rapidly for many years. This growth has caused a water shortage, poor sanitation and transportation, and other problems.

Economy of Kinshasa is based chiefly on the activities of Congo's national government, the city's largest employer. Industries include the production of beverages, processed foods, soap, textiles, and tires. Many of Kinshasa's people earn their livings by selling items they make in their homes. Trains and trucks carry cargo between Kinshasa and Matadi, Congo's chief Atlantic Ocean seaport. Kinshasa has the nation's busiest airport.

History. By the late 1400's, settlements based on fishing and trade had developed in the area that is now Kinshasa. During the 1700's and 1800's, the area flourished as a trading center. In 1881, the British explorer Henry M. Stanley set up an outpost there for King Leopold II of Belgium, his employer. The settlement was named Léopoldville after the king, who ruled the area as a personal possession from 1885 to 1908. Belgium took control in 1908 and made Léopoldville the capital in 1930. Congo became independent in 1960, and the capital was renamed Kinshasa in 1966. M. Crawford Young

Kiowa Indians, *KY uh wuh,* are a tribe who live largely in Oklahoma and elsewhere in the southwestern United States. According to the 2000 U.S. census, there are about 8,600 Kiowa. Most of them live in rural communities near Anadarko, Carnegie, and Mountain View, Oklahoma. Other Kiowa live in urban areas and work in law, medicine, teaching, and other professions.

The Kiowa once hunted buffalo on the plains. They were fierce warriors and raided many white and Mexican settlements, especially from 1850 to 1870.

According to tribal tradition, the Kiowa once lived as nomadic hunters in a region that was covered by snow much of the year. They later moved to the Rocky Mountains near what is now Yellowstone National Park. The Kiowa next migrated to the Black Hills of eastern Wyoming and southwestern South Dakota, and then to the southwestern plains. In 1867, Kiowa chiefs agreed to settle on a reservation in the Indian Territory (now Oklahoma) with two other tribes, the Comanche and the Kiowa Apache. The three groups became known as the KCA tribes. They adopted a constitution in 1932.

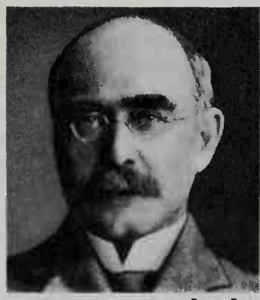
In 1963, the KCA tribes abolished their constitution and, in 1970, the Kiowa adopted their own tribal constitution. The tribe is governed by the Kiowa Indian Council, which consists of all members who are at least 18 years old. The Kiowa Business Committee, an elected group, manages tribal programs in such fields as business, education, and health. Everett R. Rhoades

Kipling, Rudyard, *RUHD yuhrd* (1865-1936), was a leading English short-story writer, poet, and novelist. He is best known for his stories about India during the late 1800's, when India was a British colony. Kipling wrote more than 300 short stories, which illustrate a wide variety of narrative techniques. He also wrote children's sto-



Kinshasa is the capital and largest city of the Democratic Republic of Congo. In many parts of Kinshasa, automobiles and other vehicles and pedestrians often crowd the streets.

ries that became popular worldwide. In 1907, Kipling was the first English writer to receive the Nobel Prize for literature.


Brown Bros.
Rudyard Kipling

Childhood. Joseph Rudyard Kipling was born in Bombay, India, on Dec. 30, 1865. His father, John Lockwood Kipling, had come to Bombay after being appointed to a teaching post at a Bombay school of art. Indian servants took care of Rudyard and taught him the Hindi language of India.

When Kipling was 5 years old, his parents brought him to Southsea, England, near Portsmouth. It was the custom of English parents living in India to remove their children from the heat and deadly diseases of the colony by sending their children to school in England. In Southsea, Kipling was boarded with paid foster parents. He felt he had been deserted during his five unhappy years there. Kipling later recalled this period in a bitter short story, "Baa, Baa, Black Sheep" (1888).

At the age of 12, Kipling was enrolled at the United Services College, a school established to educate inexpensively the sons of Army officers. Kipling, an eager reader, was made editor of the school journal. He developed several lifelong friendships at the school. *Stalky & Co.* (1899), a collection of short stories, is a fictional record of his life there. The stories emphasize adolescent brutality and practical joking but constitute a lively record of life in an English public school.

Young journalist. Limited family finances prevented Kipling from going to a university. In 1882, he returned to India instead and joined the staff of the *Civil and Military Gazette,* a newspaper in the northwestern city of Lahore. He learned much about life in the region by reporting on local events. By 1886, his feature articles and stories had many readers. The newspaper also printed some of his poems, later collected in *Departmental Ditties* (1886) and enlarged in later editions.

In 1887, Kipling joined the staff of the *Pioneer,* a newspaper in Allahabad. He wrote articles based on his travels in northern India. Many were later collected in *From Sea to Sea* (1899).

Early literary success. Kipling's first book of fiction, *Plain Tales from the Hills* (1888), consists of 40 stories, 32 of them originally written for the *Civil and Military Gazette.* Stories for the *Pioneer* soon were collected in six paperback books in the Indian Railway Library series. These books, sold in railroad stations, were popular with travelers and spread Kipling's fame outside India.

Kipling returned to England in 1889. His Indian Railway Library stories were reprinted in the collections *Soldiers Three* and *Wee Willie Winkie* in 1890. Kipling's first novel, *The Light That Failed,* was also published in 1890. The novel about an artist going blind received mixed reviews, but Kipling by this time was the most talked about writer in both England and the United States. *Life's Handicap* (1891) is another collection of short stories. These stories include "Without Benefit of Clergy," a powerful study of a doomed love affair between an Englishman and a young Indian woman.

Kipling's popularity grew tremendously with his *Barrack-Room Ballads,* which were published individually in periodicals in the early 1890's and collected in book form in 1892. Many of the *Ballads* are written in the Cockney dialect. They include such famous poems as "Danny Deever," "Fuzzy Wuzzy," "Gunga Din," and "Mandalay."

Kipling in America. Soon after his return to England, Kipling became friends with the American literary agent Wolcott Balestier. Shortly before his death in 1891, Balestier collaborated on Kipling's second novel, *The Naulahka* (1892). In January 1892, Kipling married Balestier's sister, Carrie, in London.

The Kiplings moved to Brattleboro, Vt., in the summer of 1892. They lived there in a rented cottage for one year. This was a period of hard work for Kipling. He published *Many Inventions* (1893), a collection that includes the fine tale about a sea monster, "A Matter of Fact." Kipling also wrote *The Jungle Book* (1894) and *The Second Jungle Book* (1895), children's stories that gained a wide international audience. These stories describe the adventures of Mowgli, an Indian child who gets lost in the jungle and is brought up by a family of wolves. While in the United States, Kipling also visited Gloucester, Mass., to conduct research on fishing fleets for his sea novel, *Captains Courageous* (1897).

Later career. Kipling returned to England in 1896. He wrote poems for the *London Times* that made bold political judgments and prophesied the direction of international events. For example, "Recessional" warned the British of complacency in the face of rising militarism in Germany. Kipling also urged the need for a slow transfer of power from colonial governments to native populations in parts of the British Empire.

Kipling returned to the subject of India in his finest novel, *Kim* (1900). The story tells of an Irish orphan who adopts early and completely to Indian ways. The novel became a classic because of its rich rendering of the multiple cultures of India. It offers portraits of unforgettable characters—especially native Indians.

Another book of children's stories, the *Just So Stories,* appeared in 1902. It gives humorous explanations of such questions as how the leopard got its spots and how the elephant got its trunk. Kipling reviewed English history for children in *Puck of Pook's Hill* (1906) and *Rewards and Fairies* (1910).

Kipling's later works reveal a darkened view of the world. His daughter, Josephine, died of pneumonia in 1899, and his son, John, died in 1915 in the Battle of Loos during World War I. In addition, Kipling's concerns about his own health colored the fiction of his later years. He suffered from a bleeding ulcer for years before it was finally diagnosed in 1933. Kipling's last three volumes of short stories, *A Diversity of Creatures* (1917), *Debits and Credits* (1926), and *Limits and Renewals* (1932), stress the realities of pain and death. An unfinished autobiography, *Something of Myself,* was published in 1937, after his death. Harold Orel

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Kirby-Smith, Edmund. See Smith, Edmund Kirby.
Kirghiz. See Kyrgyzstan.
Kiribati, *KIHR uh BAS,* is a small country made up of 33 islands in the central Pacific Ocean. It consists of three island groups: the 16 Gilbert Islands and Banaba (formerly called Ocean Island), the 8 Phoenix Islands, and 8 of the Line Islands. These islands spread across about 2 million square miles (5 million square kilometers) of the Pacific Ocean.

Kiribati has a total land area of 280 square miles (726 square kilometers). One island, Kiritimati Atoll, covers more than half of this area. Kiribati has a population of about 85,000. About 95 percent of the people live in the Gilbert Islands. Tarawa, an island in the Gilberts, is Kiribati's capital.

The United Kingdom ruled much of what is now Kiribati from 1892 to 1979, when Kiribati became an independent nation. The country's basic unit of currency is the Australian dollar. Its national anthem is "Teirake Kain Kiribati" ("Stand, Kiribati"). For a picture of Kiribati's flag, see **Flag** (Flags of Asia and the Pacific).

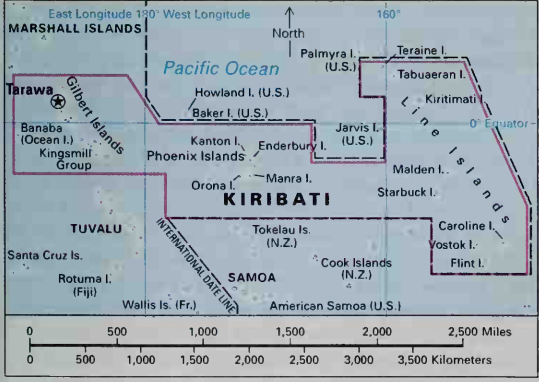
Government. Kiribati is a republic headed by a president. The president is elected to a four-year term by the people from among candidates nominated by the Parliament. The Parliament, the nation's lawmaking body, consists of 36 members who are elected by the people to four-year terms; the country's attorney general; and an appointed representative of Banaba. Seventeen local councils administer local island government affairs. *Unimane* (councils of elders) handle the local matters of villages.

People. The majority of the people of Kiribati are Micronesians. The islanders call themselves *I-Kiribati.* Most of the islanders live in rural villages of a few to more than 100 dwellings clustered around a church and a *maneaba* (meeting house). Many of the dwellings are made of wood and leaves of coconut trees. Cement block houses with iron roofs are becoming more common.

Kiribati







WORLD BOOK maps



Cameramann International, Ltd. from Marilyn Gartman
The people of Kiribati grow most of their own food. Many of them raise tomatoes to sell to oceangoing ships that dock there.

The I-Kiribati are dependent on the sea. Fishing and the making and sailing of canoes form an important part of their life. The islanders grow most of their own food, which includes bananas, breadfruit, papaya, pandanus fruit, sweet potatoes, and *babai* (giant taro). They also raise pigs and chickens. On Tarawa, people rely more on imported foods. The islanders used to wear soft, finely woven mats but now wear light cotton clothing.

The language of the islanders is Gilbertese. But most of them also speak some English, which is used in official communications. Kiribati has about 100 elementary schools and several high schools.

Land and climate. Almost all the islands of Kiribati are coral reefs. Many are *atolls* (ring-shaped reefs that enclose a lagoon). Kiribati has a tropical climate, with temperatures of about 80 °F (27 °C) the year around. The northern islands receive about 120 inches (300 centimeters) of rain annually. The other islands have a yearly rainfall of about 40 inches (100 centimeters).

Economy. Kiribati is a developing nation. Its only important export is *copra* (dried coconut meat). Most of the nation's commerce goes through Tarawa, which has docks and an international airport. Tarawa also has an *earth station,* which transmits and receives international communications through a satellite in space. Kiribati's government runs a radio station and publishes a weekly newspaper, both in Gilbertese and English.

History. No one knows the origins of the I-Kiribati. The islands are believed to have been inhabited when Samoans settled there between the 1000's and the 1300's. There is evidence that the I-Kiribati lived there long before the Samoans. In the 1500's, Spanish explorers became the first Europeans to sight the islands.

In 1892, Britain gained control of the Gilbert Islands and the neighboring Ellice Islands to the south. Britain took control of Ocean Island in 1900. In 1916, the Brit-

ish made these islands the Gilbert and Ellice Islands Colony. Some of the Line Islands, and the Phoenix Islands, were later added to the colony.

During World War II (1939-1945), Japanese troops occupied several of the islands. The United States Marines invaded Tarawa in 1943 and defeated the Japanese in one of the bloodiest battles of the war.

The Ellice Islands separated from the colony in 1975 and became the independent nation of Tuvalu in 1978. The remaining islands in the former Gilbert and Ellice Islands Colony gained independence as Kiribati on July 12, 1979. Michael R. Ogden

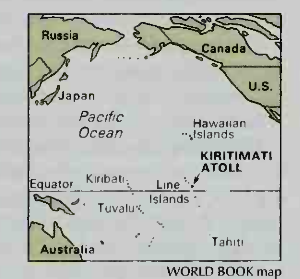
See also **Gilbert Islands; Kiritimati Atoll; Line Islands; Tarawa; World War II** (Island hopping in the Central Pacific; picture: Hugging the ground).

Kirilenko, *kih rih LEHNG koh,* **Andrei Pavlovich,** *ahn DRAY puhv lawv yihch* (1906-1990), was an official of the Communist Party of the Soviet Union. In 1956, he became a member of the party's Central Committee. In 1962, he was made a member of the Politburo, the party's policymaking body. In 1966, he was named to the Secretariat of the Central Committee. In 1982, Kirilenko resigned from the Politburo and the Secretariat, but he remained in the Central Committee until his death.

Kirilenko was born in Alekseevka, near Voronezh. He joined the Communist Party in 1931. He graduated from an aviation institute in 1936. Stuart D. Goldman

Kiritimati Atoll, *KIHR uh sih MAHS,* also called Christmas Island, is one of the largest islands formed by coral in the Pacific Ocean. About 1,300 people live on Kiritimati Atoll. The people who live on the island speak a language called Gilbertese. *Kiritimati* is the Gilbertese spelling of the word *Christmas.*

Kiritimati Atoll lies about 1,300 miles (2,100 kilometers) south of Honolulu. The island has a coastline of 80 miles (130 kilometers), and covers about 140 square miles (360 square kilometers). It is low, dry, and sandy. The British used it as a nuclear test site from 1957 until late 1962. In 1962, the United States held nuclear tests there.



Kiritimati Atoll

On Christmas Day, 1777, the British explorer James Cook became the first European to reach the island. The island was annexed by Britain in 1888, and became part of the Gilbert and Ellice Islands colony in 1919. U.S. forces built an airfield on the atoll during World War II (1939-1945). In 1979, Kiritimati Atoll became part of the nation of Kiribati (see **Kiribati**).
Robert C. Kiste

See also **Line Islands; Pacific Islands** (map).

Kirkland, Lane (1922-1999), served as president of the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) from 1979 to 1995. Most labor unions in the United States belong to the AFL-CIO. Kirkland succeeded George Meany as president.

One of Kirkland's goals as AFL-CIO president was to persuade nonmember unions to join the federation. Major unions that did not belong included the Teamsters Union, which had been expelled in 1957, the United Automobile Workers (UAW), and the United Mine Workers of America (UMW). The UAW joined in 1981. The Teamsters were readmitted in 1987. The UMW joined in 1989.

Joseph Lane Kirkland was born in Camden, South Carolina. He graduated from the U.S. Merchant Marine Academy in 1942 and served in the Merchant Marine until 1946. He graduated from the Georgetown University School of Foreign Service in 1948 and became a researcher with the AFL. In 1961, he became Meany's executive assistant. From 1969 to 1979, Kirkland served as secretary-treasurer of the AFL-CIO. James G. Scoville

Kirkpatrick, Jeane Jordan (1926-), served as U.S. ambassador to the United Nations (UN) from 1981 to 1985. She was the first woman to head the U.S. delegation to the UN. When President Ronald Reagan appointed her to this post, she was a professor of political science at Georgetown University. After resigning from the UN position in 1985, Kirkpatrick resumed her teaching career at Georgetown.

Although named to the UN post by a Republican, Kirkpatrick was a long-time Democrat. She held several important positions in the Democratic Party during the 1970's. In 1972, she and other leading Democratic scholars and officeholders formed the Coalition for a Democratic Majority, which worked to strengthen the party. She became critical of U.S. foreign policy during the late 1970's, however, and she joined Reagan's group of advisers for the 1980 presidential campaign.

Kirkpatrick was born in Duncan, Oklahoma. She graduated from Barnard College and earned master's and doctor's degrees in political science at Columbia University. She joined the Georgetown faculty in 1967. She also served as a resident scholar at the American Enterprise Institute for Public Policy Research, a center for studies of government policy. She has written several books, including *Political Woman* (1974) and *The New Presidential Elite* (1976). Lee Thornton

Kirkwood, Samuel Jordan (1813-1894), a Republican, served as governor of Iowa and as a United States senator from that state. He held office as governor of Iowa from 1860 to 1864. When the American Civil War started in 1861, he pledged his personal fortune and borrowed from friends to equip volunteers for the Union Army. In 1866 and 1867, Kirkwood was a U.S. senator. He served a second term as governor in 1876 and 1877 and became a senator again in 1877. He joined President James Garfield's Cabinet as secretary of the interior in 1881. Kirkwood was born in Harford County, Maryland. His statue represents Iowa in the U.S. Capitol in Washington, D.C. Edward A. Lukes-Lukaszewski

Kirlian photography, *KIHR lee uhn,* is the process of creating an image of an object by exposing the object to an electromagnetic field. The process is also known as *electromagnetic discharge imaging* (EDI). Objects thus photographed appear surrounded by discharges of light. The images may be captured with ordinary photographic methods or by more sophisticated techniques.

Some scientists once suggested that the images seen in Kirlian photographs resulted from the *aura* or *bioplasma,* a theoretical energy field said to surround living things. Today, the following process is known to be responsible for Kirlian images: The electromagnetic field causes gas molecules surrounding an object to accelerate and become *ionized* (electrically charged). It also



Kendall Johnson and Thelma Moss, UCLA

A Kirlian photograph shows discharges of light surrounding an object. In this Kirlian photograph of a human hand, the discharges appear as white and purple bands of light.

frees and accelerates electrons and positive ions from the object's surface. The charged particles collide with neutral molecules and atoms, creating more electrons and ions. After a sufficient amount of positive ions has built up, the electrons and ions recombine and emit red, violet, and ultraviolet light. These emissions show up as discharges of light in the photographs.

Kirlian photography can be used to monitor changes in the ions in living tissue. Some scientists believe that such changes indicate physical or psychological changes in the organism. Researchers also have used Kirlian techniques to detect and measure damaged regions in solid materials. But many factors may affect the quality of a Kirlian image, including the temperature and moisture of the object and the surrounding gas.

The photographing of objects exposed to an electric field began in the 1890's. The process was named for the Soviet scientists Semyon and Valentina Kirlian, who began to systematize the technique about 1940.

John G. Michopoulos

Kirstein, Lincoln Edward (1907-1996), was an important figure in the history of American ballet. In 1933, Kirstein and *choreographer* (dance creator) George Balanchine helped found the School of American Ballet. Its dance company became the New York City Ballet in 1948. Kirstein served as general director of the dance company and as president of the school.

Kirstein was born on May 4, 1907, in Rochester, New York. He wrote several books on dance, including *Dance* (1935), the first important history of ballet written by an American. *By With To & From* (1992) is a collection of his memoirs, criticism, and poetry. *Mosaic* (1994) is an autobiography. He died on Jan. 5, 1996. Katy Matheson

Kishinev. See Chisinau.

Kissinger, Henry Alfred (1923-), served as secretary of state from 1973 to 1977. He was appointed by President Richard M. Nixon and kept the post after Gerald R. Ford became president in 1974. Kissinger also served as assistant to the president for national security affairs from 1969 to 1975. He was the most influential foreign policy adviser of both presidents.

Between 1969 and 1973, Kissinger conducted secret negotiations with North Vietnamese diplomats in an effort to end the Vietnam War. The negotiations led to a cease-fire agreement signed in January 1973 by the United States, North Vietnam, South Vietnam, and the Viet Cong. Kissinger and Le Duc Tho, the chief North Vietnamese negotiator, won the 1973 Nobel Peace Prize for negotiating the cease-fire. But fighting went on until the war ended in 1975.

Kissinger carried out other missions for Nixon. In 1971, he went to China to arrange Nixon's 1972 visit. He went to Moscow in 1972 to prepare Nixon's meeting with Soviet leaders. In 1974, Kissinger helped arrange agreements to separate the fighting forces of Israel from those of Egypt and Syria. These nations were involved in the 1973 Arab-Israeli War. In 2000, Kissinger became chancellor of the College of William and Mary.

Kissinger was born on May 27, 1923, in Fürth, Germany. His family came to the United States in 1938 to escape Nazi persecution of Jews. Kissinger served in the U.S. Army during World War II. He became a U.S. citizen in 1943. Kissinger earned three degrees at Harvard University and taught courses there on international relations. His writings on foreign policy include *Nuclear Weapons and Foreign Policy* (1957). Kissinger has written two volumes of memoirs, *White House Years* (1979) and *Years of Upheaval* (1982). *Diplomacy* (1994) deals with notable statesmen since the 1600's. David S. Broder

Kitchen Cabinet was a nickname the enemies of President Andrew Jackson gave to a group of his political advisers. Most of these advisers were not members of the president's official Cabinet. During Jackson's first administration (1829-1833), he held few regular Cabinet meetings and consulted this unofficial cabinet instead. Critics objected to the influence they believed these advisers had on Jackson.

Leading members of the Kitchen Cabinet included Secretary of State Martin Van Buren; Major William B. Lewis, second auditor of the United States Treasury; Isaac Hill, United States senator and former editor of the *New Hampshire Patriot;* Amos Kendall, auditor of the Treasury; and Francis P. Blair, Sr., editor of the Washington *Globe.* James C. Curtis

See also **Jackson, Andrew.**

Kitchener (pop. 190,399; met. area pop. 414,284) is a city in southern Ontario. It was the birthplace of W. L. Mackenzie King, who served three terms as prime minister of Canada. Kitchener lies 65 miles (105 kilometers) west of Toronto (see **Ontario** [political map]).

Kitchener lies next to the city of Waterloo and is the center of the regional municipality of Waterloo. Kitchener and Waterloo form a single community, but each has its own government. Kitchener has a mayor-council form of government. About a third of the people in Kitchener have German ancestry.

The Kitchener Farmers Market attracts many tourists because of its famous German and Pennsylvania Dutch food and style of cooking. Other points of interest include Woodside, King's boyhood home; and Doon Pioneer Village, a reconstruction of a community as it may have appeared in the mid-1800's. Every fall, thousands of visitors come to Kitchener and Waterloo for the *Oktoberfest.* This nine-day celebration is based on the famous beer festival of Munich, Germany.

Kitchener has more than 300 manufacturing plants. The city's chief products include automobile and electronic parts, clothing, food and beverages, furniture,

plastic products, and rubber. Kitchener serves as the trading center for a rich agricultural area in the Great Lakes Lowland region of Ontario. Waterloo is the home of the University of St. Jerome's College, the University of Waterloo, and Wilfred Laurier University.

In 1805, Mennonites from Pennsylvania established the first permanent settlement in what is now the Kitchener-Waterloo area. They chose the location because of the fertile land and named their community Sand Hills. During the early 1800's, many German immigrants settled there. About 1830, the settlement was renamed Berlin, for the capital of Germany. Berlin became the county seat of Waterloo County in 1876 and was incorporated as a city in 1912.

In 1916, during World War I, the voters renamed the city Kitchener to show their support of Canada and the United Kingdom. Horatio H. Kitchener was a famous British soldier who had drowned at sea a short time before.

Many new industries opened in Kitchener after World War II ended in 1945. They created thousands of new jobs and helped the city's population rise from 44,867 in 1951 to 74,485 in 1961. In the early 1970's, Kitchener began to redevelop its downtown section. The old City Hall was torn down. A new tower for city offices opened in 1973. In the late 1970's, Mackenzie King Square was completed near downtown Kitchener. The complex includes an art gallery and a 2,000-seat theater called Center-in-the-Square. In the early 1990's, the regional headquarters of Canada Trust and a Toronto-Dominion banking center opened in Kitchener.

Donald G. Cartwright

Kitchener, Horatio Herbert (1850-1916), was a distinguished British soldier. Early in his career, he served in Palestine, Cyprus, and Egypt. As governor general of the Sudan and then commander of the Egyptian Army, he put new spirit into the army and broke the power of the dervishes, a fanatic religious group. In 1898, Kitchener reoccupied Khartoum for the British (see **Sudan**).

Kitchener went to South Africa in 1899 as second in command to General Frederick Sleigh Roberts in the Boer War. When Roberts returned to England, Kitchener became commander of the South African army. After difficult guerrilla warfare, he ended the war successfully (see **Boer War**). Then he served as commander in chief of the army in India and later advised the Australian and New Zealand governments on army reforms. From 1911 to 1914, Kitchener served as head of the British administration in Egypt, and in June 1914 he was made Earl of Khartoum and of Broome.

In 1914, at the beginning of World War I, Kitchener was appointed secretary of state for war. He raised a large British army, an important factor in the eventual success of the Allies. He was drowned on June 5, 1916, when a ship on which he was a passenger hit a mine.

Kitchener was born on June 24, 1850, in County Kerry, Ireland. He was educated at the Royal Military Academy at Woolwich. Larry H. Addington

Kite is a type of bird that preys on small animals. There are about 20 species of kites. They live on all the continents and on the large islands in the southwestern Pacific. Kites have long, narrow wings and are graceful gliders. Four species live in the United States. They are found in the South and Southeast, especially in Florida.



WORLD BOOK illustration by Trevor Boyer, Linden Artists Ltd.

The snail kite is a hawk that has broad wings and a long, hooked bill. The male, *shown here,* has bluish-black plumage.

The *American swallow-tailed kite* has a long, deeply forked tail. Its head and underparts are white and its back, wings, and tail are black. These kites are 22 to 25 inches (56 to 64 centimeters) long. The *black-shouldered kite* is mostly white. Adults have light gray on the back and wings and a large black patch on the shoulder. The adult *Mississippi kite* has a gray body with light gray on the head and underparts. Its tail and wing tips are blackish. The *snail kite* has broad wings, a white band at the base of the tail, and a slender, sharply hooked bill. The male has bluish-black feathers and red legs. The female and young have streaks of brown on their light-colored underparts and orange legs.

Most kites eat insects, frogs, lizards, snakes, and small mammals. But the snail kite eats only snails of the genus *Pomacea.* Richard D. Brown

Scientific classification. Kites are in the family Accipitridae. The American swallow-tailed kite is *Elanoides forficatus;* the black-shouldered kite, *Elanus caeruleus;* the Mississippi kite, *Ictinia mississippiensis;* and the snail kite, *Rostrhamus sociabilis.*

See also **Hawk**.

Kite is an object that is flown in the air at the end of a line. The name comes from a graceful, soaring bird called a *kite.*

Some kites consist of material such as paper or cloth mounted on a frame made of sticks, to which a line or lines are attached. However, many kite builders use synthetic coverings, such as plastics or nylon, that are lighter and more durable than paper or cloth. They also use fiberglass or aluminum instead of wood for the frame. The lines may be nylon, polyester, or other synthetics, or cotton. Kites can be made in hundreds of sizes, shapes, and colors.

Most kites today are made and flown for recreational purposes. For example, in Hamamatsu, Japan, people fly brightly painted kites taller than adult human beings in a festival over 400 years old. Kites have also been used for scientific research and for military purposes. Kites carrying measuring devices into the sky helped develop the science of weather forecasting in the 1800's. During World War II (1939-1945), life rafts carried box kites that

were equipped with radio antennas in order to send out S O S signals.

How kites fly

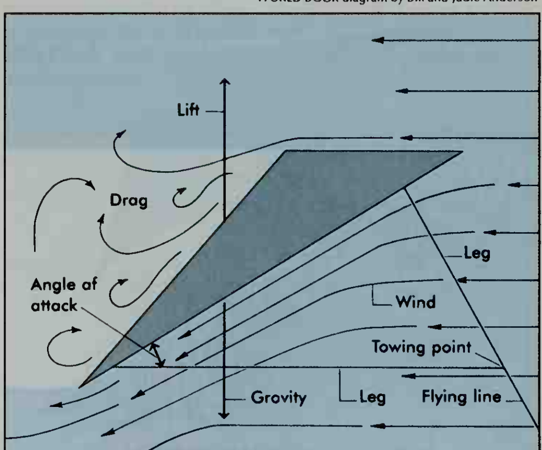
A kite's ability to fly in the wind depends on its construction and the way its lines are attached. For example, the well-known diamond-shaped kite flies when its covered side is facing the wind. The lines should pull the nose of the kite into the wind, creating the necessary angle against the wind. This angle is called the *angle of attack.* If the kite's construction and angle of attack are correct, the kite will strike the air with greater pressure against its face than against its back. The difference in air pressure between the face and back surfaces creates *lift,* which is the force that makes the kite rise. The resistance of the air to the forward motion of the kite is called *drag.* The forces of lift, drag, line tension, and gravity combine to keep the kite in the air.

Most kites fly from a *bridle.* The bridle consists of two or more short lines, called *legs,* that attach the kite to the flying line. The place of attachment, called the *towing point,* sets the kite's angle of attack. The bridle also distributes stresses on the kite to help the kite keep its shape and fly. A kite must be headed up and into the wind. It can maintain this position in several ways, such as through a tail, a rudder, a keel, tassels, vents, or combinations of these.

How kites fly

The forces of lift, drag, line tension, and gravity combine to keep a kite in the air. A kite must be flown in such a way that its *angle of attack* (angle against the wind) provides enough lift to overcome its drag and gravity. The angle of attack can be controlled by the placement of the bridle legs and the towing point.

WORLD BOOK diagram by Bill and Judie Anderson





Mark E. Kester

Stunt kites offer enjoyment for kite flyers as well as spectators. The kites come in a variety of styles and are designed to do precise maneuvers, such as sharp turns and loops. Several kites can also be flown in a row, as shown above.

Types of kites

There are hundreds of different types of kites. The most basic types include (1) flat kites, (2) bowed kites, (3) box kites, (4) delta kites, and (5) flexible kites. Stunt kites look similar to other kites but are built to be more precisely controlled in flight.

The flat kite is the oldest basic type of kite. Flat kites need tails to supply drag and keep the kite pointed toward the sky. A simple tail consists of cloth strips tied end to end. Strips can be added or removed as needed. The more wind there is, the more tail is needed. A kite should begin with a tail at least seven times its diagonal length.

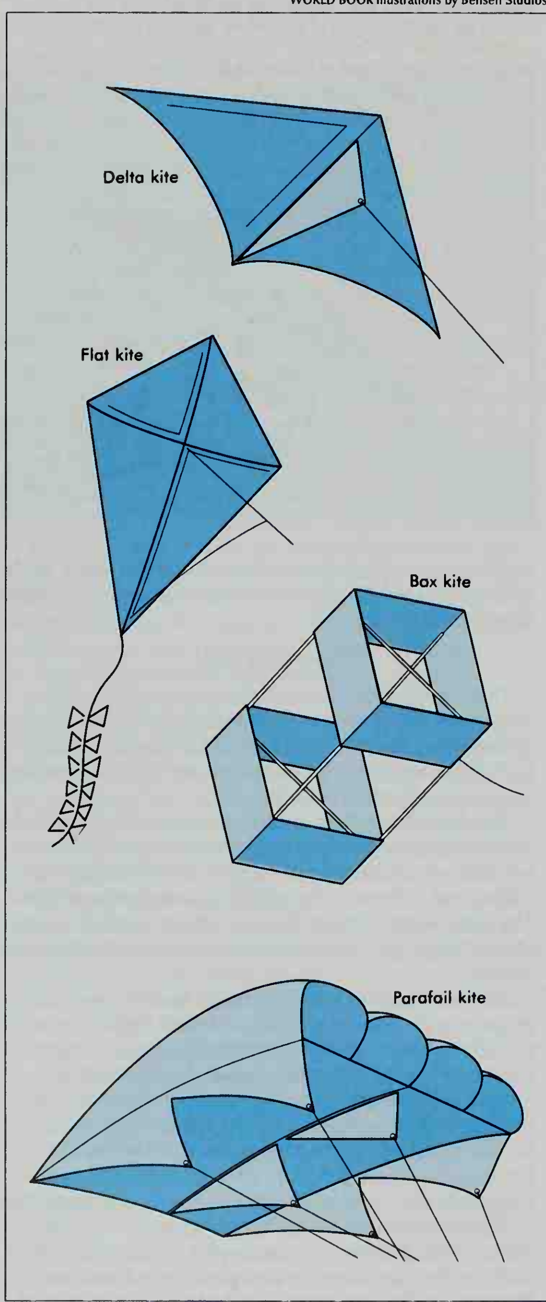
The bowed kite is curved on its face to create an angle into the wind, called the *dihedral angle.* This angle provides stability without the need for a tail. A favorite bowed kite is the two-stick diamond-shaped kite patented in 1891 by an American named William A. Eddy. In India and other countries, fighter kites, which become bowed in the wind, are used in the sport of *kite fighting.* Participants attach glass-coated lines to their kites and maneuver them in attempts to cut down opponent kites.

The box kite consists of three-dimensional units whose sides are squares, rectangles, or triangles. The units can be combined in countless ways. Most box kites require strong, steady winds to fly. When several are flown on one flying line or in a train, the pull can be great enough to lift a person off the ground. Lawrence Hargrave of Australia invented the box kite in 1893.

The delta kite is roughly triangular. Most delta kites have a flap of material, called a *keel,* which is perpendicular to the surface. The keel works as a bridle and attaches to the flying line. Delta kites are easy to build, and readily fly in light winds.

Kite designs range from simple, roughly triangular flat kites to more complex, multisided box kites. Most kites have a frame construction covered with some type of fabric. Flexible kites, such as the parafoil, take their shape when filled with wind.

WORLD BOOK illustrations by Bensen Studios



The flexible kite is sewed or taped together in a design that takes shape when the kite is filled with wind. An example is the parafoil, which is similar to a parachute and consists entirely of fabric. It has no rigid frame. A complicated bridle with many legs attaches the parafoil to the flying line. The kite was invented by Domina C. Jalbert of the United States in 1963.

Stunt kites resemble basic types of kites but can be operated with more precision to perform complex acrobatics. Most stunt kites have two flying lines attached to the bridle and are called *dual-line control kites. Quad-line kites* have four flying lines. Stunt kites can be manipulated to do such stunts as figure eights, sharp turns, or stops in the air, or flying backward.

Flying a kite

Kites should be flown in open, unobstructed spaces. Good locations include schoolyards, parks, farm fields, empty parking lots, and beaches. Kites should not be flown on public streets and highways, in areas where kites would interfere with airplane traffic, on bumpy or rocky land, or near trees.

Kite fliers should follow several safety rules. Never fly kites in stormy or wet weather because static electricity can travel down the flying line and injure—or even kill—the person holding the line. Never fly a kite near electric lines or antennas, or use any metal in the kite lines. By wearing gloves, kite fliers may prevent *line burn,* which is caused by the kite cord pulling too quickly through the fingers.

Before flying a kite, make sure that the kite has been properly assembled. Also, take along extra supplies, such as tail materials, line, and a winder for the line.

Some kites need only a light breeze of 3 or 4 miles (5 or 6 kilometers) per hour to fly. Others require wind speeds of more than 10 miles (16 kilometers) per hour. Judge the wind from the movement of tree branches. A wind speed of 25 miles (40 kilometers) per hour is too strong for most kites.

Two people—a launcher and a flier—provide the easiest way to fly a kite. The launcher walks the kite away from the flier at least 50 feet (15 meters). The wind should be at the flier's back and in the launcher's face. After pulling the flying line so there is no slack, the flier signals to the launcher to release the kite. If everything is correct, the kite will rise easily into the sky. The flier should keep tension on the flying line but allow it to feed out smoothly.

If the wind drops, repeated hauling on the flying line will force the kite up into higher breezes, which are usually steadier. The flier need not run with the kite if there is enough wind. If the kite begins to tumble, the flier should slacken the flying line. This helps the kite regain stability and prevents it from diving and crashing to the ground. When ready to bring the kite in, the flier should walk to the kite while pulling the flying line in, and then wrap the line on the winder.

History

Kites are the oldest form of aircraft. They probably originated in China more than 2,000 years ago. During the Han dynasty (202 B.C. to A.D. 220), the Chinese military attached bamboo pipes to the kites. As the kites flew over the enemy, wind passed through the pipes, causing a whistling sound. The noise caused the troops to panic and flee.

In 1752, Benjamin Franklin conducted the most famous kite experiment in history. Franklin flew a homemade kite during a thunderstorm, with a metal key attached to the flying line. He wanted to prove that natural lightning is electricity. A bolt of lightning struck a

pointed wire fastened to the kite and traveled down the wetted flying line to the key, causing a spark. The spark proved Franklin's theory.

In 1847, a kite helped pull a cable across the Niagara River between the United States and Canada. The cable was part of the river's first suspension bridge.

Kites played an important role in the development of the airplane. Lawrence Hargrave's box kite changed the way people designed flying objects. In addition, the Wright brothers used box kites to test their ideas about wing warping. The results of these tests enabled the Wright brothers to make the first airplane in 1903. See **Wright brothers**.

Alexander Graham Bell, the inventor of the telephone, also created kites. He hoped they would lead to aircraft that would carry people. He used *tetrahedral* (four-faced) box kites that could be combined in large forms for lifting human beings.

Kites have been used to measure the weather. From 1898 to 1933, the U.S. Weather Bureau (now the National Weather Service) operated kite stations. These stations flew box kites with weather-measuring devices.

Today, kites are used less often for military or scientific purposes. However, since the 1970's, kites have gained interest as a pastime. Hundreds of specialty kite shops exist throughout the United States.

Kite flying is a year-round sport. Some kites are used to propel people in buggies or boats or on skates or skis. Kites are also exhibited in museums as works of art. Kite lovers worldwide form clubs and participate in festivals and other kite events. Several books, newsletters, and a magazine called *Kite Lines* provide information about kites. Valerie Govig

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Kitimat, *KIHT ih mat,* British Columbia (pop. 10,285), is a community that was carved out of low, wooded land at the head of Douglas Channel on the North Pacific Coast. Kitimat lies 400 miles (640 kilometers) north of Vancouver (see **British Columbia** [political map]).

In 1951, the Aluminum Company of Canada started building a huge new aluminum smelter and the community of Kitimat to house workers' families. It picked this site because of its harbor and the area's abundance of water to provide inexpensive hydroelectric power. The company built Kenney Dam east of the mountains to reverse the eastward flow of the Nechako River, and created a 350-square-mile (906-square-kilometer) reservoir. A 10-mile (16-kilometer) tunnel through the Coast Mountains carries the water to the western side of the mountains. There, the water drops to a power plant built inside the mountains at Kemano, 50 miles (80 kilometers) south of Kitimat. Power lines carry the power generated at Kemano to Kitimat.

In 1989 the company, now called Alcan Aluminium Limited, began to build another tunnel. However, the project was canceled in 1995 because of controversy about the tunnel's impact on the environment and on the fishing industry.

Kitimat was scientifically planned. The residential area lies east of the channel head, and the industrial area lies southwest of the head. Kitimat is a district municipality. It was incorporated in 1953. The municipality has a council-manager form of government. Jean F. McLeod

Kitt Peak National Observatory. See **National Optical Astronomy Observatories.**



WORLD BOOK illustration by Trevor Boyer, Linden Artists Ltd.

The black-legged kittiwake is a gull that lives in the Arctic. Colonies of kittiwakes build their nests on rocky ledges.

Kittiwake, *KIHT ih wayk,* is a gull that gets its name from its mournful cry. The *black-legged kittiwake* lives in the Arctic regions of Europe, Asia, and North America. The *red-legged kittiwake* nests on islands near Alaska in the Bering Sea.

Adult kittiwakes measure from 16 to 18 inches (41 to 46 centimeters) long. They are white with a bluish-gray back and black-tipped, bluish-gray wings. They have a yellow beak. Kittiwakes make nests of seaweed or other vegetation. Large numbers of the birds build nests close together on rocky ledges. Females lay two or three spotted eggs. George L. Hunt, Jr.

Scientific classification. Kittiwakes belong to the gull and tern family, Laridae. The scientific name for the black-legged kittiwake is *Rissa tridactyla.* The red-legged kittiwake is *R. brevirostris.*

Kitty Hawk, North Carolina. See **Airplane** (The Wright brothers); **Wright brothers.**

Kiva. See **Anasazi** (Way of life); **Archaeology** (picture: Computers in archaeology); **Pueblo Indians** (Early life).

Kiwanis International, *kih WAH nihs,* is an organization of local clubs of business and professional men and women who are interested in community service. Hundreds of thousands of members form thousands of Kiwanis clubs worldwide.

Program. Kiwanis serves a community in many ways. For example, the organization's members support a variety of community projects, ranging from facilities for the

young and elderly to alcohol and drug abuse programs. Kiwanis members also support conservation and take part in community drives, including safety and fund-raising campaigns. Kiwanis International sponsors three youth service organizations—Builders Club for junior high school students, Key Club International for high school students, and Circle K International for college students. Thousands of students belong to each of these organizations.



Kiwanis International

The Kiwanis emblem

Most Kiwanis clubs hold a meeting every week. At a majority of these meetings, an invited speaker gives a talk to the club. Through these meetings, Kiwanis club members have an opportunity to enjoy fellowship and broaden their interests.

Organization. Each Kiwanis club is independent of the others. However, district organizations unite the local clubs. The headquarters of Kiwanis International are in Indianapolis. An international convention is held every year. Kiwanis publishes *Kiwanis* magazine each month.

Kiwanis was founded in Detroit in 1915. The name *Kiwanis* comes from an old American Indian term meaning *We make ourselves known.* The motto of Kiwanis International is *We Build.*

Critically reviewed by Kiwanis International

Kiwi, *KEE wee,* is a New Zealand bird that cannot fly. Many kiwis live in New Zealand's forests, but people seldom see them. The birds are shy, and they will usually run away when anyone comes near them.

The kiwi is about the size of a chicken. It has a stocky body covered with shaggy, dull brown feathers. The neck and legs of the kiwi are short, and its bill is long and flexible. It has no tail, and its wings are tiny, consisting only of several stiff feathers. The kiwi is the only bird that has nostrils at the tip of its bill. The bird uses them to smell food in the thick, wet forests where it lives. At night, it feeds on earthworms, insects, and berries. During the day, the kiwi hides.



WORLD BOOK illustration by Trevor Boyer, Linden Artists Ltd.

The kiwi is a New Zealand bird that cannot fly. It has short legs and a long bill, and its body is covered with shaggy feathers.

There are three *species* (kinds) of kiwis. The female kiwi lays one or two very large white eggs in a hole in a bank. The male sits on the eggs for 75 days, until they hatch. The term *kiwi* is a nickname for a New Zealander. It is also used for a member of an air service who is confined to ground duty. John W. Fitzpatrick

Scientific classification. Kiwis belong to the kiwi family, Apterygidae. The best-known kiwi is classified as *Apteryx australis.*

See also **Bird** (Birds of Australia and the Pacific Islands; picture).

Kiwi fruit, *KEE wee,* is a berry with a brown, fuzzy skin and is similar in size and shape to an egg. Kiwi fruit has an emerald-green pulp surrounding a cluster of soft, black seeds. The pulp has a pleasant, mixed-fruit flavor and is rich in vitamin C.

People eat kiwi fruit fresh, frozen, or canned and use it to make fruit salads, pies, ice cream, and wine. Kiwi fruit is named after a New Zealand bird called the kiwi, which it resembles.



WORLD BOOK illustration by James Teason

The flowers and fruit of the kiwi vine

Kiwi fruit grows on vines. The plants do best in a mild climate. New Zealand ranks as the leading producer of kiwi fruit, followed in order by France, the United States, Italy, Spain, and Japan. Kiwi fruit is native to southeastern China and is also known as the *Chinese gooseberry.* Cultivation of the fruit spread to other parts of the world during the early 1900's. Jaime E. Lazarte

Scientific classification. Kiwi fruit belongs to the family Actinidiaceae. The scientific name for the kiwi is *Actinidia chinensis.*

Klaipėda, *KLY peh* DAH (pop. 191,000), is the third largest city in Lithuania. Only Vilnius and Kaunas have more people. Klaipėda was formerly called *Memel.* It lies in western Lithuania on the Baltic Sea coast. For location, see **Lithuania** (map). The city serves as a seaport and industrial center. Its economic activities include fishing, food processing, shipping, shipbuilding, and textile production.

German knights founded Klaipėda in 1252. Germany then ruled the community until the end of World War I

in 1918. In 1923, the city became part of independent Lithuania. Germans took control of Klaipėda in 1939. The Soviet Union forcibly made Lithuania a Soviet republic in 1940. In 1945, Soviet troops seized Klaipėda and returned it to Lithuania. In 1991, Lithuania broke away from the Soviet Union and became an independent nation again. Zvi Gitelman

Klamath Indians, *KLAM uhth,* are a tribe of southwestern Oregon. In earlier times, the Klamath made clothing and many other objects from cattail and tule, two marsh plants abundant in the area. For example, they made fringed skirts, hats, and moccasins from tule and animal skins. They also wove baskets of cattail and tule. They carried, stored, and cooked food in these baskets.

The Klamath built two types of houses, one for winter and one for summer. For winter, they constructed an earthen lodge by first digging a pit in the ground. They then built walls and a roof of wood and covered them with layers of earth and tule mats. An opening in the roof served as both an entrance and a hole to let out smoke. For summer, the Klamath built a shelter called a *wickiup.* It consisted of a willow frame covered with tule mats. They also built small *sweat lodges,* where they took ceremonial steam baths to purify themselves.

The Klamath lived in small villages. Each village chose leaders for their ability. Individuals called *shamans,* believed to have contact with the spirits, cared for the sick.

In 1826, trappers for the Hudson's Bay Company became the first Europeans to meet the Klamath. In 1864, the Klamath, the Modoc, and a band of Paiute Indians signed a treaty with the U.S. government. Under the treaty, the Indians exchanged their land for a reservation that covered about 1 million acres (400,000 hectares). In 1954, Congress passed a law that abolished the reservation and ended federal services for the Klamath. The law took effect in 1961. Most members of the tribe sold their reservation land to the U.S. government, which preserved much of it as Winema National Forest.

Today, many Klamath still live on or near the former reservation. In addition, the tribe continues to elect tribal leaders and maintains a business office.

Lynn J. Schonchin, Sr.

Klee, *klay,* **Paul** (1879-1940), ranks among the greatest and most original masters of modern painting. Klee's thousands of paintings, drawings, and prints are masterpieces of fantasy, wit, and invention. His pictures are usually small and filled with childlike symbols and writing that hint at a mysterious inner vision of the world and its inhabitants. Klee worked in water color, ink, and graphite, as well as in oils.

Klee was born near Bern, Switzerland, but established himself as an artist after moving to Germany. He became the friend of painters Wassily Kandinsky and Franz Marc and exhibited with their *Der Blaue Reiter* (*The Blue Rider*) group just before World War I. Klee taught at the Bauhaus school of design from 1920 to 1929. He left Germany in 1933 when the Nazis gained power. He moved to Switzerland and spent the rest of his life there. Some of his ideas on art have been published as the *Pedagogical Sketchbook.* Deborah Emont Scott

Klein, A. M. (1909-1972), was a Canadian poet, novelist, short-story writer, and journalist. His Jewish heritage formed a key element in most of his writings. His first book of poems, *Hath Not a Jew. . .* (1940), warmly expresses his Jewish inheritance. *Poems* (1944) confronts anti-Semitism and the question of evil. *The Hitleriad* (1944) is a long poem that satirizes German dictator Adolf Hitler. In *The Rocking Chair* (1948), Klein portrayed French-Canadian life, with the rocking chair symbolizing movement without progression.

Klein's only published novel is *The Second Scroll* (1951). This book presents a mirror of Jewish events from 1917 to the founding of the state of Israel in 1948. The narrator of the story finds a new identity with the people of Israel and recognizes the relationship between good and evil.

Abraham Moses Klein was born in Ukraine and grew up in Montreal, Canada. He was raised in the Orthodox Jewish faith. Klein drew away from orthodoxy, but became a lifelong Zionist. He was admitted to the Canadian bar in 1933. In the mid-1950's, Klein suffered a nervous breakdown. He withdrew from all but his immediate family. Ronald B. Hatch

Klein, Calvin (1942-), is an American fashion designer famous for his stylish yet casual designs aimed at the active woman. Klein's understated clothes, made of luxurious fabrics in soft earth tones, have relaxed and fluid lines. They underscore the elegant informality Klein sees in the American life style. Klein has become a celebrity as a designer, and his celebrity status has been a factor in his success.

Calvin Richard Klein was born in New York City. With Barry K. Schwartz, his partner, he started his own fashion business in 1968, manufacturing women's coats and suits. Early in his career, Klein designed collections of related separates—blouses, skirts, jackets, and other pieces that could be worn in various combinations. Klein believed such designs met the desire of women for practical clothes. During the 1970's and 1980's, Klein licensed the sale of cosmetics, jeans, menswear, and underwear under the Calvin Klein label. Jean L. Druesedow

Klein, Lawrence Robert (1920-), an American economist, won the 1980 Nobel Prize in economics. He received the award for pioneering the use of computers to forecast economic activity. Klein put economic relationships into a mathematical form that could be analyzed by computer.

In one of his best-known projects, Klein developed a set of mathematical formulas, called a *model,* to describe the United States economy. The model dealt with the relationships among such elements as income, prices, and unemployment.

Klein is also known for his work with Project LINK, an attempt to develop a model of the world economy. He supervises an international team of economists who create economic models of their own countries. By linking the models together, Klein hopes to discover how the economies of the world affect one another.

Klein was born in Omaha, Nebr., and received a Ph.D. degree from the Massachusetts Institute of Technology. He has taught economics at the University of Pennsylvania since 1958. Klein's books include *A Textbook of Econometrics* (1953) and *An Essay on the Theory of Economic Prediction* (1968). Barry W. Poulson

Kleist, *klyst,* **Heinrich von,** *HYN rihkh fawn* (1777-1811), was a German writer. His plays and stories often deal with trust and faith between people. His characters

often suffer from confused feelings and find themselves in violent or desperate situations.

Kleist's short novel *Michael Kohlhaas* (1808) is a story of extreme personal rebellion against public injustice. His best plays include the romantic *Käthchen von Heilbronn* (1810) and the historical drama *Prince Friedrich von Homburg* (1809-1811). *The Broken Jug* (1808) is one of the few lasting comedies in German drama.

Kleist was born in Frankfurt (an der Oder). He served as an officer in the Prussian Army, but became dissatisfied with military life and resigned in 1799. Finally, overcome by inner torment, Kleist shot and killed a woman friend and himself at the age of 34. Jeffrey L. Sammons

Klemperer, *KLEHM puhr uhr,* **Otto** (1885-1973), was a famous conductor of opera and of symphony orchestras. Early in his career, he was known as a champion of modern music. In his later years, he was respected, especially in England, as a link with the great romantic tradition of the 1800's.

Klemperer was born in Breslau, Germany (now Wroclaw, Poland). The composer and conductor Gustav Mahler played a large role in determining Klemperer's approach to conducting. Klemperer led the Los Angeles Philharmonic Orchestra from 1933 to 1939. He also conducted numerous performances of the New York Philharmonic Orchestra and the Pittsburgh Symphony Orchestra during that period. After World War II ended in 1945, Klemperer became one of the leading conductors in England. Martin Bernheimer

Kleptomania, *KLEHP tuh MAY nee uh,* is a recurrent failure to resist the impulse to steal things. Kleptomaniacs steal things they do not need or cannot use. They do it without knowing why, and they do it habitually. Kleptomaniacs experience an increasing sense of tension before stealing things and feel relieved while or after committing the act.

Psychiatrists consider kleptomania a symptom of mental illness, and it may be associated with other psychiatric disorders. Kleptomania may result from a variety of unconscious wishes. Some kleptomaniacs unconsciously wish to be caught and punished.

The word *kleptomania* comes from two Greek words which mean *to steal* and *madness.* It was coined during the 1800's to describe what was then thought to be a form of insanity. Allen Frances

Klimt, Gustav (1862-1918), was an Austrian artist. He was the leading cofounder and first president of the Vienna Secession, a group of artists and architects who created the Austrian version of French art nouveau in painting and the decorative arts (see **Art nouveau**). Klimt is best known for his paintings of the human figure. Like other art nouveau artists, he painted in a flat, richly patterned, and colorful style that emphasized curving and rhythmic lines.

Klimt was born near Vienna. He began his career as a portrait artist and decorative painter. Klimt's murals *Philosophy, Medicine,* and *Jurisprudence* (1900-1907), done for the University of Vienna, created controversy because the figures were gloomy and sensual rather than heroic. Klimt's last major project was a group of mosaics (1911) in the Palais Stoclet in Brussels. The mosaics are composed of glass, semiprecious gems, gold, and enamel. Their human figures are almost lost in the brilliantly patterned abstract design. Pamela A. Ivinski

Kline, Franz (1910-1962), was an American abstract expressionist artist noted for his large, starkly simple, black-and-white paintings. In these works, strong black forms seem to sweep across raw white surfaces with whirling speed. This style gave the impression of rapid brushwork. But it was usually produced only by the most painstaking work. Kline sometimes took months to finish a picture. His powerful compositions inspired many younger artists to experiment by using fewer colors and working with simple, giant symbols.

Kline was born in Wilkes-Barre, Pa. He moved to New York City in 1938 and first exhibited his black-and-white abstractions in 1950. He later taught at Black Mountain College, Pratt Institute, and the Philadelphia Museum of Art. Dore Ashton

Klondike is a region in the Yukon Territory of northwestern Canada, where one of the world's greatest gold rushes took place. The region covers about 800 square miles (2,070 square kilometers), including the Klondike River and its tributaries. See **Gold rush; Yukon Territory** (History).

On Aug. 17, 1896, George W. Carmack, his Indian wife Kate, and her relatives found a large quantity of gold in the gravel of a creek he named the Bonanza. Residents of the town of Dawson now celebrate this date as "Discovery Day," and it is a territorial holiday. An earlier prospector, Robert Henderson, had found some gold in Gold Bottom Creek, and had suggested that Carmack search for gold in the area.

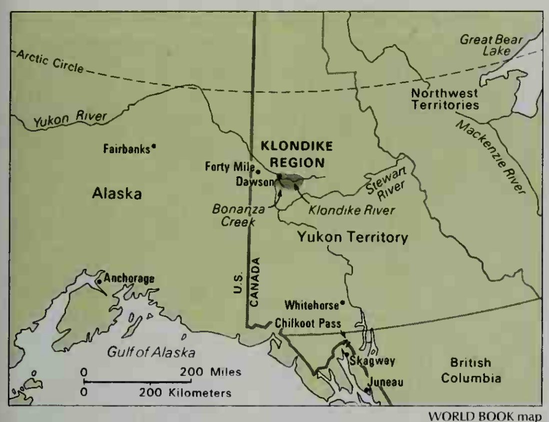
When Carmack and the others recorded their claims at Forty Mile, a mining camp about 50 miles (80 kilometers) from Dawson, most of the miners there moved up to Bonanza Creek. News of the rich strike did not reach the outside world until July 1897, when the steamship *Portland* arrived in Seattle, Wash., with a load of gold from the region. The news spread around the world. It brought a stampede of prospectors to the Klondike in the fall of 1897, and an even greater one in 1898. But few of the men made fortunes. The good claims were staked before most prospectors arrived.

By 1928, $200 million worth of gold had been pro-



Brown Bros.

The Klondike gold rush in the late 1890's drew many prospectors to the Yukon Territory. The town of Dawson sprang up and had about 25,000 residents at the peak of the gold rush.



WORLD BOOK map

Location of the Klondike

duced in the region, mostly by individual placer mines. Since then, dredges have produced millions of dollars worth of gold each year. Other minerals in the area include silver, lead, and zinc.

The Klondike winter lasts seven months. But long hours of summer sunshine produce good vegetable crops. The growing season in the Klondike rarely permits the ripening of grain crops but allows hay farming.

Duane A. Smith

Knee is the joint where the thighbone meets the large bone of the lower leg. The knee moves like a hinge, but it can also rotate and move a little from side to side. The knee is more likely to be damaged than most other joints because it is subject to tremendous forces during vigorous activity. Most of the knee injuries that occur in football and other sports result from twisting the joint.

The *patella* (kneecap) is a small, flat, triangular bone in front of the joint. It is not directly connected with any other bone. Muscle attachments hold it in place.

The *femur* (thighbone) and the *tibia* (large bone of the lower leg) are connected in three ways: (1) by *ligaments* (strong, cordlike tissues); (2) by muscles; and (3) by a *synovial capsule.* The synovial capsule surrounds the joint.

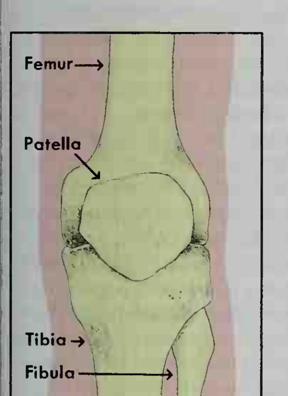
The knee ligaments are the strongest connections between the femur and the tibia. Ligaments keep the bones from moving out of position.

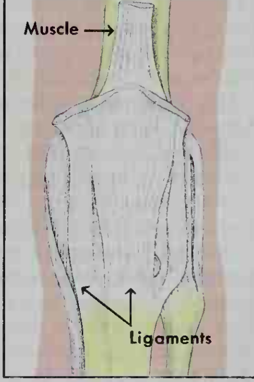
One group of muscles bends the knee, and another group straightens it. Cords called *tendons* attach the muscles to the bones.

The synovial capsule secretes a liquid called *synovial fluid,* which resembles raw egg white. The synovial fluid nourishes the joint surfaces and reduces friction between them. If the synovial capsule is injured, it may produce too much fluid. This extra fluid is sometimes called "water on the knee."

Smooth tissue called *cartilage* covers the ends of the leg bone and thigh bone. This tissue helps the bones slide easily over each other. Because cartilage is springy, it also acts as a cushion. Bruce Reider

See also **Arthroscopy; Joint; Leg.**





WORLD BOOK illustration by Marge Moran

The knee is the joint at which the thighbone meets the large bone of the lower leg, *left.* The kneecap protects the joint. Muscles bend and straighten the knee, and ligaments steady it, *right.*

Knife is a cutting instrument used as an eating utensil, a tool, or a weapon. Knives consist chiefly of a blade and a handle. Knife blades are made from steel, and most handles are made from hardwood or plastic. Other handle materials include antlers and cow bones.

Knives have many uses. For example, surgeons make incisions with small, straight knives called *scalpels.* Many artists use flexible *palette knives* to paint rugged lines and broad splashes of color on their pictures. *Putty knives* and *filling knives* are often used in home repair.

People have used knives throughout history. Early human beings fashioned the first knives from flint or obsidian and used them to skin animals and cut meat. Materials for making blades progressed to bronze, then iron, and steel. Today, some blades are even made of extremely hard ceramic. During the Middle Ages, many people carried their own knives and forks and used them for eating. The rounded table knife, still in use today, probably came into limited use in Europe during the 1400's.

Types of knives. There are two main categories of knives: *fixed-blade knives* and *folding knives.* Fixed-blade knives have a blade with a solid steel extension, called a *tang,* that fits into the handle. The handle is attached to the tang by such materials as glue and rivets. Some fixed-blade knives also have a *pommel* and a *hilt.* A pommel is a metallic cap on the end of the handle. A hilt is a guard where the handle meets the blade. The *Bowie knife,* which was made popular by American frontiersman Jim Bowie, is a fixed-blade knife.

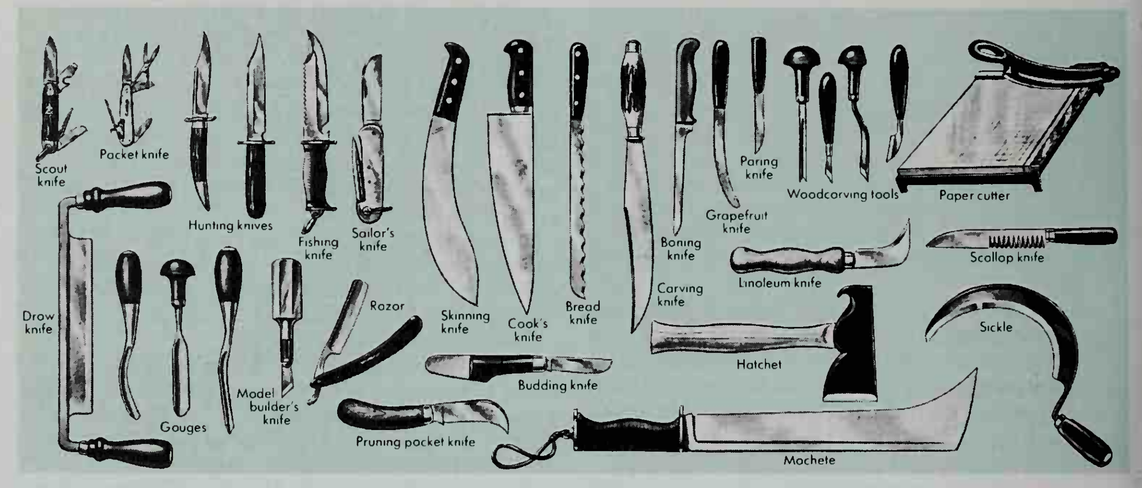
Folding knives have a blade that closes inside a split handle. A hinge pin secures the blade to the front of the handle. A spring holds the blade closed, and on some knives a lock holds it open. Some folding knives have several blades hinged to both ends of the handle.

There are many types of knives within the two main categories. The design of the blade varies depending on its purpose. Blades differ according to (1) their thickness, (2) their *depth* (the average distance from their top to their edge), and (3) the shape of their point.

The *French chef's knife,* a kitchen utensil, has a blade designed to slice food evenly. It is thin and deep and narrows to a point. This knife is known as "the master of cooking" because it also carves and dices well. Another kitchen utensil is the *boning knife.* Its thin, shallow blade has a sharp point. The blade bends to cut meat from around bones. Both the French chef's knife and the boning knife are fixed-blade knives.

Kinds of knives

Mutual of Omaha



Most table knives have fairly thick blades with rounded points. They are designed for cutting soft foods and for spreading. Most table knives have a handle attached to the tang. However, some are made in a single piece.

The *hunting knife* and the *combat knife* differ greatly from knives used as kitchen utensils. The hunting knife has a thick, deep blade that narrows slowly to a point. This sturdy knife can be used to skin an animal or slice vegetables for a stew. The combat knife is made to be used as a camping tool and, if necessary, as a weapon. The combat and hunting knives are fixed-blade knives.

The *Boy Scout knife* is a folding knife with four blades. One blade is deep and thick, with a blunt point. It is used for cutting and whittling. The second is a thin, shallow, and sharply pointed blade for delicate cutting. The third blade is a bottle opener and screwdriver, and the fourth is a can opener. The *Swiss Army knife* comes with up to 20 blades and folding tools. A *custom knife* is made by a knifemaker for a single user or collector.

Knife safety. Knives can be dangerous, but observing the rules of knife safety can lessen the danger. Always aim the blade away from you when cutting. Always cut on a cutting board. Always keep knives sharp. A dull knife often slips and cuts the person using it. Never place loose knives in a drawer or a sink full of dishwater, where people may cut themselves accidentally. Also, the knives will rattle against each other and become dull. Therefore, always store knives in a sheath or in a knife rack. J. Bruce Voyles

See also Bayonet; Bowie knife; Dagger; Razor.

Knight, Bob (1940-), ranks among the most successful coaches in college basketball history. He became known for his ability to teach and motivate his players as well as for his controversial outbursts of temper. Knight was the coach at Indiana University from 1971 until 2000, when he was dismissed for what the university said was a pattern of inappropriate behavior. He became basketball coach at Texas Tech University in 2001.

Knight's Indiana teams won the National Collegiate Athletic Association (NCAA) tournaments in 1976, 1981, and 1987 and the 1979 National Invitational Tournament. Knight coached United States basketball teams to gold medals in the 1984 Olympic Games and the 1979 Pan American Games.


Indiana University
Bob Knight

Robert Montgomery Knight was born on Oct. 25, 1940, in Orrville, Ohio. He attended Ohio State University, where he played on the basketball team that won the 1960 NCAA championship. Knight coached the U.S. Military Academy basketball team from 1965 until he became head coach at Indiana University. He wrote an autobiography, *Knight: My Story* (2002). William F. Reed

Knight, Eric (1897-1943), was an English-born author. He wrote fiction for adults but became best known for his only children's book, the novel *Lassie Come-Home* (1940). The story tells about a collie named Lassie in Yorkshire, England. The dog's owners are forced to sell her because they need money. Her new owner takes Lassie to Scotland. However, Lassie escapes and makes the difficult return journey to her original masters in England. The character of Lassie has appeared in several movies and a long-running television series.

Eric Mowbray Knight was born on April 10, 1897, in Menston, West Yorkshire, near Bradford. He moved to the United States in 1912. Much of his fiction is set in Yorkshire, including the novel *The Flying Yorkshireman* (1936). Knight also wrote *This Above All* (1941), a novel about the early years of World War II (1939-1945). Knight was killed in an airplane crash. Marilyn Fain Apseloff

Knighthood, Orders of. Knights of the Middle Ages banded themselves together in groups called *orders.* They vowed loyalty to their king or lord and formed a military organization to defend his land against enemies. During the Crusades, orders of knighthood fought the Muslims in the Holy Land. The knights who joined these orders took religious vows to live as monks as well as loyal fighting brothers. The most famous of the religious

Some symbols of leading orders of knighthood


Order of the Bath (Military star)—United Kingdom


Order of the Star of India (Badge)—United Kingdom


Order of the Indian Empire (Badge)—United Kingdom


Order of the Elephant (Badge)—Denmark



Order of the Bath (Civil badge)—United Kingdom


Order of St. Michael and St. George (Badge)—United Kingdom


Royal Victorian Order (Badge)—United Kingdom


Order of the Elephant (Star)—Denmark

orders were the Knights Hospitallers, the Knights Templars, and the Teutonic Knights.

Honorary orders. Honorary orders of knighthood were copied from the military orders of knighthood of the Middle Ages. They were founded by a ruler or lawmaking body to honor achievement and give special favor. In many countries, membership in these orders is given for achievement in the arts, the sciences, and business, as well as for military distinction.

The chief British orders of knighthood, with the dates of their founding, include: The Order of the Garter (1349); the Order of the Thistle (1687); the Order of the Bath (1725); the Order of Saint Michael and Saint George (1818); and the Royal Victorian Order (1896). The Order of the British Empire was created in 1917. It has five different classes for men and women, two of which carry the honor of knighthood. They are Knights (or Dames) Grand Cross and Knights (or Dames) Commander. A knight who does not belong to any special order is known as a *knight bachelor.*

In the United Kingdom, new knights are named on New Year's Day or in the spring. Membership in an order entitles the holder to be called *Sir.* The wife of a knight is called *Lady.* A woman who is given the rank corresponding to knighthood is called *Dame.*

Other well-known European orders of knighthood and their founding dates are the Seraphim of Sweden (1748), the Golden Fleece of Spain and Austria (1429), the Danish Order of the Elephant (1462), the Saint Andrew of Russia (1698), the Black Eagle of Prussia (1701), the Legion of Honor of France (1802), and the Norwegian Order of Saint Olaf (1847).

A person who is made a member of an order of knighthood receives a *badge* or *jewel* at a ceremony called an *investiture.* On formal occasions, the person wears the *star* of the order on his or her chest.


© BBC Hulton from Bettmann Newsphotos

The ceremony conferring knighthood is called *investiture.* Queen Elizabeth II of the United Kingdom conferred knighthood on Gary Sobers, a cricket player from Barbados, in this ceremony in 1975. In the United Kingdom, men who become knights are called *Sir.* Women who enter orders of knighthood are called *Dame.*

United States. There are no official orders of knighthood in the United States. But several organizations have called their members *knights.* The best known of these groups is the Knights of Columbus, a fraternal order of Roman Catholic men. Another organization, the Knights of Labor, formed a major trade union movement. Joel T. Rosenthal

Related articles in *World Book* include:

Bath, Order of the
Crusades
Garter, Order of the
Knights and knighthood
Knights Hospitallers
Knights of Columbus
Knights of Labor
Knights Templars
Medals, decorations, and orders
Teutonic Knights



The Attainment: The Vision of the Holy Grail (1896), a detail of a tapestry by Sir Edward Burne-Jones; Birmingham Museums and Art Gallery

Legends about knights were popular in medieval literature. Many stories told how the Knights of the Round Table sought the Holy Grail, the cup or dish Jesus used at the Last Supper. A number of poems describe the adventures of Sir Perceval as he searched for the Grail. This tapestry shows Sir Perceval, *right,* kneeling before the Grail in the presence of three angels.

Knights and knighthood. The word *knight* comes from the Old English word *cnight,* which means *a household retainer.* English people used the word to describe French mounted soldiers who first came to England after the Norman conquest of 1066. These knights were merely warriors equipped and trained to fight on horseback. Knighthood carried no social distinction, and any man could be a knight. Many lords had knights, who performed household duties in peacetime and fought in time of war. The lord provided armor and horses for his knights.

Between 1100 and 1300, most knights became *vassals* (servants to lords) and received some land. As the cost of armor and a war horse increased, only wealthy men could equip themselves to fight as knights. Thus the knights became a class divided from the rest of the community. Entry to their ranks became a mark of honor and distinction. Any man could be made a knight, but most new knights had fathers who were knights or who belonged to the nobility. The age of knights and knighthood is often called the *age of chivalry.* The word *chivalry* comes from the Old French word *chevalerie,* meaning *horse soldiery.* But the term came to mean the code of behavior and ethics that knights were to follow.

Knighthood grew up as part of the feudal system of the Middle Ages. It lasted as long as wars were based on heavy cavalry and combat between individuals. Knights became less important in warfare by the 1400's because of changing military tactics and the introduction of gunpowder. In the United Kingdom, knighthood is now an honor bestowed on individuals by the king or queen in recognition for outstanding merit or service. It no longer has any military meaning.

Training

In the Middle Ages, a young boy in training to be a knight spent the first years of his life chiefly in the care of the women of his family. During this time, he learned to ride a pony and care for horses.

The page. When a boy reached the age of about 7, he left home to begin training for knighthood. As a *page,* he joined the household of another knight or a nobleman. There he learned to handle small weapons. He also learned the code of courtesy and behavior expected of a knight.

The squire. A boy began his training as a *squire* at 15 or 16. He acted as a *valet,* or personal servant, to the knight who was his master. He set the table and served meals. The squire received serious training as a mounted soldier. He rode with his master into battle and took part in the fight. In battle, the squire wore silvered spurs to distinguish him from a knight, whose spurs were gilt. The period of service usually lasted about five years. Then the squire was eligible for knighthood.

Knighting. Any knight could bestow knighthood on another. Sometimes men were knighted on the field of battle, but the ceremony usually took place during times of peace. The earliest knighting ceremonies were simple. A knight buckled on the armor of the squire and proclaimed him a knight. Later ceremonies became more complicated. One man buckled on the sword, and another fastened the spurs. The squire knelt before the *parrain,* or the man who was knighting him. The parrain struck the squire on the back of the neck with the palm of his hand. Later a tap with a sword replaced the blow with the hand. This tap was called the *accolade,* from the French word *col,* meaning *neck.* The tap was followed by the words, "I dub you knight."

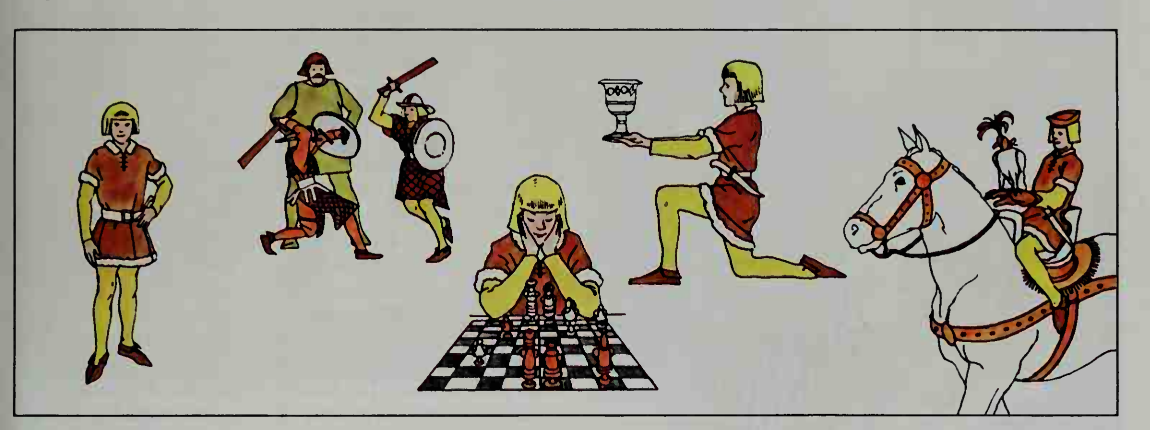
Religious ceremonies became part of the knighting ceremony when the ideals of Christianity became more closely linked with knighthood. Before a squire was knighted, he kept vigil in church. He confessed, fasted, prayed, and pledged to use his weapons for sacred causes and ideals. Before the ceremony, he bathed and put on special clothing. The pageantry made the ceremonies expensive. Feudal custom allowed an overlord to levy money from his vassals when his eldest son was knighted.

The code of chivalry

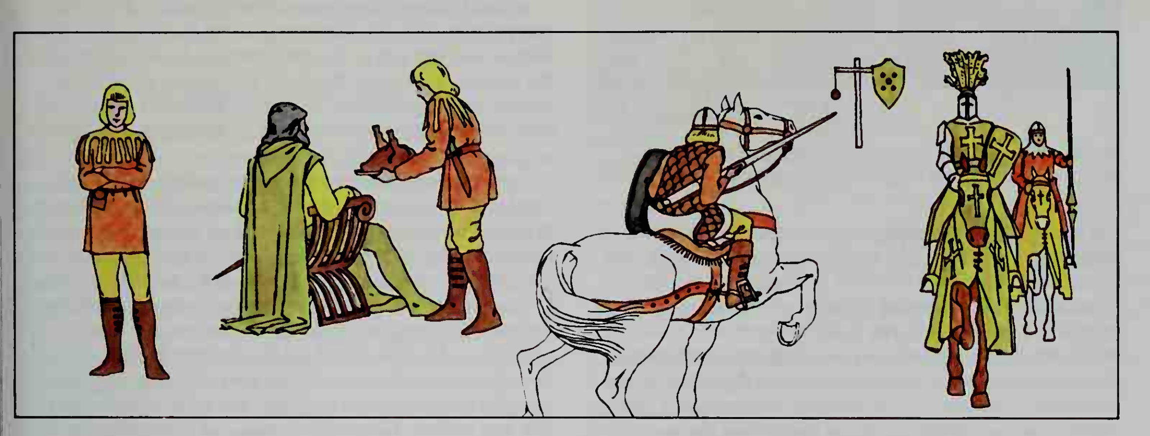
Chivalry was the knight's code of behavior. The code of chivalry grew with the songs of the minstrels in the 1000's and 1100's. Their poems show that a true knight had faith and a deep love of the Christian religion. He defended the church and was ready to die for it. He loved the land of his birth, and gave generously to all.

Training for knighthood

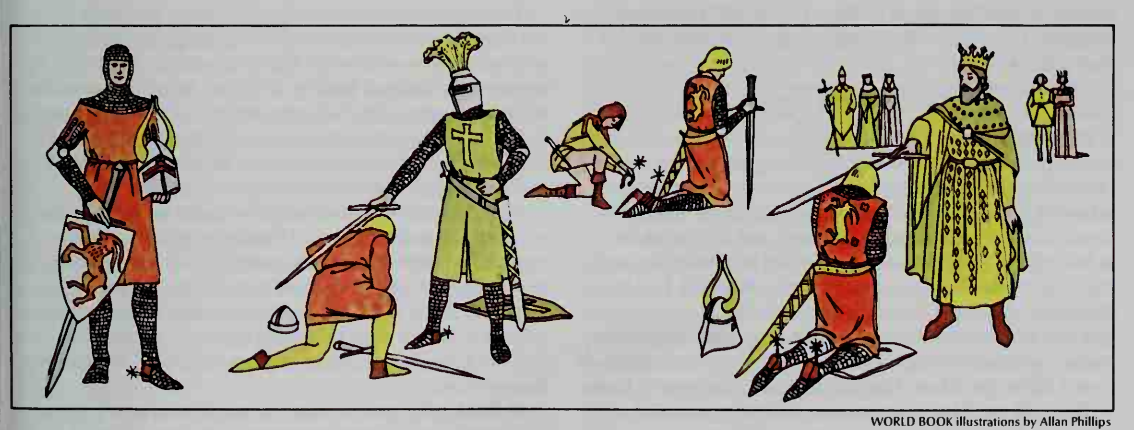
To become a knight, a boy spent several years serving his master as a *page* and then as a *squire.* Knights followed a code of behavior and ethics that became known as *chivalry.*



A boy served as a page from about the age of 7 until his teens. During this period, he learned to fight with swords and played chess and other games that taught skill and strategy. A page also learned to serve his master and to hunt with falcons and hawks.

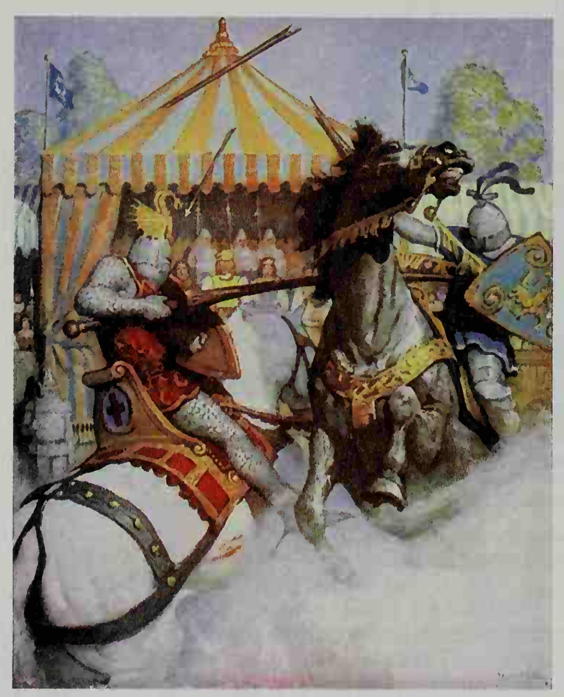


A squire acted chiefly as a servant to his master while training for knighthood. Squires often tested their skill with a lance in jousts against one another or used a dummy target called a *quintain.* A squire rode at his master's side in battle and took charge of prisoners.



WORLD BOOK illustrations by Allan Phillips

"I dub you knight." Those words completed the ceremony in which a squire became a knight. Some men were knighted on the battlefield if they had shown great bravery. The knight received his sword and other weapons from his master or king, or from members of the king's court.



In a tournament, knights on horses galloped toward each other and tried to drive their lances through each other's armor.

His strength served to protect women and the feeble. A knight championed right against injustice and evil, and never surrendered or flinched in the face of the enemy.

In real life, a knight did not always resemble the ideal knight of the minstrels. His code of honor and loyalty was sometimes applied only to members of his own class, and he often acted brutally toward people of low birth. The violent life of the Middle Ages made it difficult to prevent violations of the code. Even dedicated knights were also soldiers interested in conquest and plunder. A knight who was proved guilty of cowardice or other serious misconduct was disgraced by having his sword and his spurs broken. However, "serious misconduct" usually meant violations against other knights and their families.

Clothing and armor

Clothing. In the 1100's, a knight wore a sleeved under tunic of linen or wool, reaching below the knees. Over this was a sleeveless tunic, open at the sides and fastened with a belt. He had a cloak fastened at the shoulders, and wore long stockings and leather shoes. In the 1200's, the under tunic reached to the ankles, and the knight also wore a fur-lined *surcoat,* which had long sleeves and a hood that covered his head.

Clothes in the 1300's became more colorful and elaborate. The under tunic covered only the torso, and buttoned down the front. The sleeves buttoned tightly from wrist to elbow. The trousers also fit tightly. Jeweled felt hats and decorated capes became popular.

Fashions in the 1400's went to extremes of decoration and display. The surcoat was pleated, edged with fur, and fastened at the waist with a belt. Shoulder padding and stiffening over the chest created an exaggerated waistline. The sleeves were long, full, and stiff. Shoes became so pointed that the front was often curled up and fastened to the knee with a small chain. From the 1200's to the 1400's, knights dressed colorfully and carefully followed changes in fashion.

Armor. The early knight wore a conical helmet with a projection to cover his nose. He also wore a long garment of padded fabric or leather covered with interlaced metal rings, called *mail.* In the 1300's, a stronger helmet covering the entire head of the wearer replaced the conical helmet. Patches of plate armor were added to protect places the mail did not adequately defend. Strips of plate were designed to protect the elbow, the arm, the knee, and the part of the leg between the knee and the ankle. Plates of metal, called *pauldrons,* covered the opening in the armor at the junction between the arm and the body. The shield became much smaller and could be shifted to protect the face and head. The lance was the knight's principal weapon, but he also used a sword, mace, and battle-ax. His sword hung on his left side, and a dagger on his right.

In the 1400's, plate armor covered the knight's body completely. A mail collar covered the gap between the helmet and the top of the body armor. A visor, fitted to the helmet, protected the face. The knight wore metal gloves, called *gauntlets,* as well as iron shoes. Strips of mail covered the arms and legs. Swords became lighter and less cumbersome.

Gunpowder appeared on the battlefield in the early 1300's. The new armor, designed to protect against gunfire, was so heavy that the knight had to be lifted on his horse by a crane. If he fell off during battle, he could not get up without help, and often lay at his enemy's mercy.

The coat of arms provided the only recognizable feature of a knight when his face was covered. It was painted on his shield and on the surcoat that he wore over his armor. Horses often wore cloth trappings with the coat of arms. Every knight's coat of arms was different, and knights became very good at identifying each other at a glance.

Tournaments

Tournaments developed in the 1100's, probably in northern France. Large numbers of knights gathered and split into two sides to fight each other. These fights were much like real battles, and they provided valuable military training. The defeated knights often had to pay ransoms to the winners to recover their freedom and possessions. A tournament could last for several days and range over the countryside.

Kings opposed tournaments because such large gatherings of armed men could lead to rebellion, and because they were bloody and wasteful. As a result, they could be held only with royal permission. Those who broke this rule suffered imprisonment and loss of property. The church supported the ban on tournaments. It refused Christian burial to anyone who died in a tournament.

In the 1200's, warlike tournaments gave way to *jousting,* which was combat between two men. Jousting took place with blunt weapons and was confined to an enclosed field. The joust often became a social gathering



The Vigil (1884), a detail of an oil painting by John Pettie; the Tate Gallery, London

The vigil was an important step in becoming a knight. The individual kept his vigil the evening before he received his knighthood. Throughout the night, he knelt in front of a church altar, confessing his sins, fasting, and praying. His armor was placed on the altar during the vigil.

attended by ladies and common people. *Tilting* also became popular. In tilting, two knights on horseback charged at each other in the *lists,* or narrow lanes, separated by rails to keep the horses apart. The purpose of the tilt was to unseat the opponent with a blunt lance or pointless sword and win the honor of the day.

Knighthood in literature

Knighthood and chivalry were favorite themes in medieval literature. Poets and minstrels of Western Europe created stories of kings, heroes, and their ladies. The stories centered on life in the castle, chivalry, and tournaments and jousts. In the 1100's, French poet-musicians called *troubadours* began composing songs known as *chansons de geste.* These songs idealized love and described the knights' heroic adventures. Some troubadours were knights and wrote exaggerated accounts of their own adventures. Bertrand de Born was an outstanding knightly troubadour. Many European kings, such as Richard the Lion-Hearted of England and Alfonso X of Castile, also composed chansons.

One group of stories made up the Arthurian legend. Arthur was a shadowy historical figure who probably lived about 500. The real King Arthur had little to do with the legends. He supposedly dined with his men at a round table. His knights, including Lancelot and Galahad, were Christian warriors who faced perils and searched for the Holy Grail (see **Holy Grail**). They protected the weak and were guided by the love of a lady.

The earliest detailed account of the King Arthur legend appeared about 1136 in the work of a Welsh chronicler, Geoffrey of Monmouth. The Norman poet Wace used this legend in his work *Le Roman de Brut.* This work was the inspiration of Chrétien de Troyes, who wrote verse romances between 1165 and 1181. Chrétien was the first to mention the Holy Grail. The Arthurian themes inspired Marie de France, author of the narrative poem *Lanval,* written about 1189. Sir Thomas Malory published his version of the Arthurian legends, *Le Morte Darthur,* in 1485. Other accounts include Edmund Spenser's *Faerie Queene,* William Morris's *The Defence of Guenevere,* Alfred, Lord Tennyson's *Idylls of the King,* and T. H. White's *Once and Future King.*

Charlemagne, the king of the Franks from 768 to 814, rivaled Arthur as the center of legend. He was the model leader of Christendom against the Muslims and appears in such works as *The Song of Roland* (see **Roland**).

Joel T. Rosenthal

Related articles in *World Book* include:

Armor	Homage	Minnesinger
Arthur, King	Knighthood, Orders of	Minstrel
Bath, Order of the	Knights Hospitallers	Round Table
Charlemagne	Knights Templars	Teutonic Knights
Crusades	Medals, decorations, and orders	Troubadour
Don Quixote		
Feudalism		
Heraldry		

Additional resources

Coss, Peter R. *The Knight in Medieval England, 1000-1400.* 1993. Reprint. DIANE, 2000.
Gravett, Christopher. *The World of the Medieval Knight.* Bedrick, 1996. Younger readers.

Knights Hospitallers were members of the Order of the Hospital of St. John of Jerusalem, a religious and military order. The order was also known as the Knights of St. John of Jerusalem and as the Hospitallers and, later, as the Knights of Rhodes and as the Knights of Malta.

The order originated with a group of men who ran a *hospice* (shelter) for Christian pilgrims in Jerusalem during the late 1000's. In 1113, while the group was under the leadership of a man named Gerard, Pope Paschal II recognized it as a religious order. By the mid-1100's, the Hospitallers had also become a military order of Christian knighthood. During the 1100's and 1200's, the order helped provide a permanent force for the defense of Christian territories in the Holy Land.

In 1291, the order was forced to leave the Holy Land and located on the island of Cyprus. About 1309, it took the island of Rhodes from the Byzantine Empire and established itself there. From its base on Rhodes, the order became a Mediterranean seafaring power. For hundreds of years, it distinguished itself as a major Western European force against the Ottoman Empire. But in 1522, the Ottoman ruler Süleyman I defeated the order, and the last knights left Rhodes on Jan. 1, 1523. In 1530, the order reestablished its headquarters, on the island of Malta. From Malta, it defended European interests in the Mediterranean until the French general Napoleon Bonaparte took Malta in 1798.

Today, the order no longer has a military function and focuses on caring for the sick. Its full name is the Sovereign Military Hospitaller Order of St. John of Jerusalem, of Rhodes, and of Malta. But it is usually called the Knights of Malta. Michael Gervers

See also **Knights Templars; Saint John, Order of.**

Knights of Columbus (K. of C.) is an international organization of Roman Catholic men and their families. It was founded in 1882 by Michael J. McGivney, a Roman Catholic priest. The organization's purpose was to give moral support to Catholic families and to provide them with benefits they were unable to obtain through insurance companies of that time. Today, the K. of C. also sponsors religious, welfare, and educational programs. Members of the K. of C. must be 18 years old and practicing Catholics.



Knights of Columbus

The K. of C. emblem

The K. of C. has about 1,500,000 members in more than 9,000 *councils* (local branches) in the United States, Canada, Mexico, the Philippines, Puerto Rico, Panama, Guam, Guatemala, and the Dominican Republic. The K. of C. also operates the Columbian Squires Department, an organization for Roman Catholic boys from 13 to 18 years old.

The Knights of Columbus started the Catholic Advertising Program in 1948. Through this program, free printed information that explains various Roman Catholic beliefs has been distributed to non-Catholics to help promote interfaith understanding.

Knights of Columbus activities include camps and schools for underprivileged children; aid to orphans, sick people, and disabled people; and citizenship training programs. The society has established a Knights of Columbus Vatican Film Library at St. Louis University. This library has microfilms of about 12 million pages from books and rare manuscripts in the Vatican Library. The society operates scholarship programs and accident, endowment, family life, health, and hospitalization insurance programs.

Most local and state K. of C. councils are self-governing. The society has 65 state or provincial councils and an international board of directors. The Supreme Council is the chief international legislative body. The organization's international headquarters are located in New Haven, Connecticut.

Critically reviewed by the Knights of Columbus

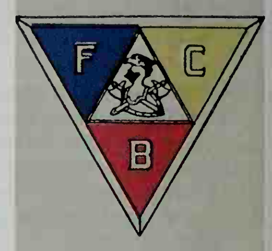
Knights of Labor was one of the most important early labor organizations in America. It was the first to organize all workers into a single union, rather than into separate trade unions. Its official name was The Noble Order of the Knights of Labor.

Uriah S. Stephens and other Philadelphia tailors founded the Knights in 1869 as a secret fraternal lodge. Anyone except bankers, stockbrokers, professional gamblers, lawyers, and those who sold or manufactured liquor could become members. The organization grew after Terence V. Powderly became its Grand Master Workman in 1879. It became powerful when a strike forced railroads owned by Jay Gould to meet its demands in 1885. Membership rose from about 100,000 to 700,000 within a year. However, the Knights lost a second strike against Gould's railroads in 1886. That defeat, and the antilabor feelings that followed the Haymarket Riot in Chicago, caused the group's membership to decline. James G. Scoville

See also **Haymarket Riot; Labor movement** (The first nationwide labor organizations; picture).

Knights of Malta. See **Knights Hospitallers.**

Knights of Pythias, *PIHTH ee uhs,* is a fraternal order to which members of any religion may belong. It has about 60,000 members in the United States and Canada. The organization performs charitable work and emphasizes high moral standards in its members. It supports homes and retirement centers for the aged and children's homes and summer camps.



Knights of Pythias

The K. of P. emblem

The chief governing body of the Knights is the Supreme Lodge. Each U.S. state and Canadian province has local lodges and a district Grand Lodge. Three organizations associated with the order help in its work—the Pythian Sisters, the Dramatic Order Knights of Khorassan, and the Junior Order Knights of Pythias.

Justus Henry Rathbone, a civil service employee, founded the Knights of Pythias in 1864 in Washington, D.C. Today, headquarters of the Supreme Lodge are in Quincy, Massachusetts.

Critically reviewed by the Knights of Pythias

See also **Fraternal organization.**

Knights of Saint John is a fraternal organization of Roman Catholics founded in New York in 1886. The organization was originally called the Roman Catholic Union of the Knights of St. John. It was renamed the Knights of St. John in 1896.

The Knights of St. John began as a semimilitary organization at a time when immigrant Roman Catholics were often subjected to discrimination and persecution. It was founded to defend the faith, foster fraternity among its members, and support the families of members in need. The organization takes its name and its inspiration from the Knights of St. John of Jerusalem, also known as the Knights Hospitallers. The Knights Hospitallers was founded in the 1100's to protect and aid pilgrims in Palestine, the Holy Land of the Bible.

The Knights of St. John lets its members participate in the church in a special way. Members of the organization have distinctive uniforms that they wear when serving as escorts at important church functions. As Catholics came into the mainstream of American life, the organization's once semimilitary character became largely ceremonial.

The Knights are ruled by a central governing body called the supreme commandery. This body is headed by the supreme secretary, who bears the title brigadier general. Local commanderies are found throughout the

United States, Canada, Central America, the Caribbean Islands, and Africa. Headquarters are located in Parma, Ohio. David G. Schultenover

Knights of the Bath. See **Bath, Order of the.**

Knights of the Round Table. See **Arthur, King; Round Table.**

Knights Templars were members of a religious military order of Christian knighthood. The order was founded about 1119 in Jerusalem by the French knights Hugh des Payens and Godfrey of St. Omer. The order was first called "the poor Fellow-Soldiers of Christ and the Temple of Solomon" because of their early state of poverty and the lodgings given them by King Baldwin II of Jerusalem. The lodgings were in the compound of the king's palace known as the Temple of Solomon.

The original purpose of the Templars complemented that of the Knights Hospitallers. The Knights Hospitallers aided pilgrims in the Holy Land while the Templars protected pilgrims on the way to and from the Holy Land.

The Templars organized under a *rule* (regulations for religious life) composed by Saint Bernard of Clairvaux. He stimulated the order's fame and growth through his writings and preaching during the Second Crusade (1147-1149). The Templars took monastic vows of poverty, chastity, and obedience. They avoided extravagant ceremony and clothing, wearing the white mantle of the Cistercian order, with a red cross added.

At first the order included only knights, but gradually it admitted *chaplains*—priests who ministered to the knights—and *sergeants*—wealthy members of the middle class. The pope took the knights under his special protection, and the order added to its purpose the duty to fight all "infidels" who threatened Christianity. The Templars thus played a key role in the Crusades and became a powerful military organization. They grew rich with properties that were donated by grateful kings and princes.

The Templars entered the banking business, and *Temples* (local lodges) established throughout Europe drew deposits of massive wealth. Princes and commoners alike banked with the Templars, and many states became indebted to them. With the fall of the Holy Land to the Muslims in 1187, the order lost its founding purpose and became a target for unhappy and envious debtors.

In 1302, King Philip IV of France came into conflict with the pope. The king was also near bankruptcy. He waged a vicious and skillful campaign aimed at suppressing the Templars, hoping to gain the order's wealth and at the same time to strike a blow against the papacy. Philip ordered all the Templars in France thrown into prison, where they were tortured until they confessed to accusations of heresy, unnatural practices, and dishonest business activities. Historical evidence has supported only the charge of dishonesty.

Templars in England, Germany, Spain, and Portugal also stood trial, but most were acquitted because they were beyond Philip's immediate control. In 1312, Pope Clement V yielded to Philip's pressure and issued a *bull* (official decree) suppressing the Templars. The pope, however, awarded the Templars' property to several military orders in Spain and Portugal and its cash holdings to the Knights Hospitallers. During the French trials, the Templars' last grand master, Jacques de Molay, confessed to false charges. He later withdrew the confession but was burned at the stake anyway in 1314.

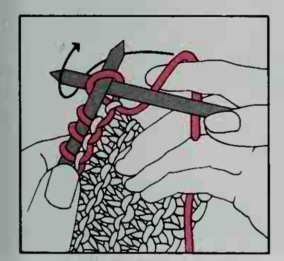
David G. Schultenover

Knitting is a method of making fabric by looping yarns around each other using one or more knitting needles. Much of the clothing we wear is made by knitting, including sweaters, stockings, scarfs, and hats. Knitted clothes are popular because they can stretch and then return to their original shape. A knitted fabric can be formed to create such items as wallhangings and stuffed fiber sculpture. Knitting can also decorate other fiber forms made by crocheting, macramé, and weaving. Knitting may be done by hand or by machines. This article describes hand-knitting. See also **Knitting machine; Textile** (Knitted fabrics).

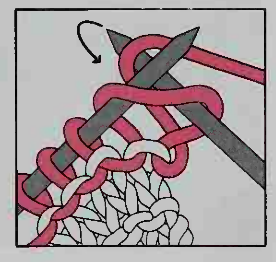
Materials. Most knitting needles are 7 to 14 inches (17.8 to 35.6 centimeters) long. One end is pointed, and the other end has a knob to prevent the fabric from slipping off. The earliest knitting needles had a hook at one end. They were probably made of twigs, pieces of bone, or copper wire. Today, knitting needles have smooth tips and are generally made of aluminum, wood, or plastic. The thickness of the needles and the type of yarn can be varied according to the nature of the fabric desired. Slender needles and lightweight yarn may be chosen for a delicate knit. Thick needles and heavy yarn produce a bulky knit. Wool has been the traditional yarn for knitting, but cotton, silk, and synthetics such as acrylic have also become popular. Blended yarns of two

How to make a knit stitch First, cast on a row of stitches as described in this article. Hold the needle with the cast-on stitches in the left hand and the other needle in the right hand. Insert the tip of the right-hand needle into the top stitch on the left-hand needle. Now follow the steps shown below.

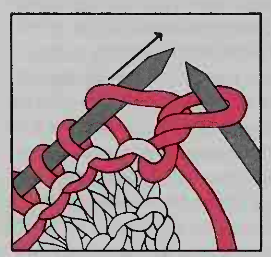
WORLD BOOK diagrams by Jean Helmer



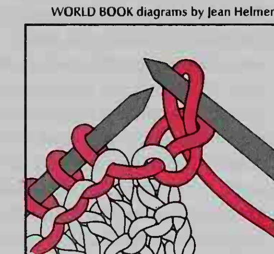
Guide the yarn forward around the tip of the right-hand needle.



Pull the yarn through the top stitch, using the tip of the right-hand needle.



Drop the top stitch off the left-hand needle. Keep the stitch on the other needle.



A complete knit stitch is shown above. Repeat these steps for each new stitch.

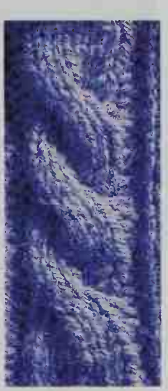
or more different fibers add to the variety.

Knitting with two needles produces a flat fabric. Three or four needles with points at both ends are used to create tubular pieces for socks and skirts. Knitters may also use circular needles and knitting spools.

Knitting the fabric. Most knitting is done with two needles. The fabric is made by wrapping a series of looped threads around one needle in a required number. This is called *casting on.* The second needle is inserted into one or two loops at a time, and the yarn is wrapped around in a certain way. The stitch is made when the loop is passed onto the second needle.

The two basic stitches are the *knit* and the *purl.* There are many additional stitches, and hundreds of methods of combining the stitches to add variety to the fabric. One of the most popular stitch patterns is the *rib stitch.* This is often used at the bottoms, cuffs, and necklines of sweaters. Another common decorative stitch is the *cable stitch.* Knitting with various colors and textures of yarns adds interest to the designs. Knitted fabric is shaped by increasing or decreasing the number of stitches.





WORLD BOOK photos

Popular knitting patterns include the *garter, basket,* and *cable,* shown here from left to right. These patterns are used in making sweaters, scarfs, and other knitted garments.

Most knitters follow written patterns that contain a standard vocabulary of abbreviations. A pattern gives directions on the types of stitches used, the order in which they are used, and the size and shape of the finished piece of fabric.

The knitter usually makes a sample about 3 inches (8 centimeters) square to determine the *gauge.* The gauge is the exact number of stitches and rows per inch produced by the needles, yarn, and type of stitch. Knowing the gauge is essential when sizes are required for clothing because each person's hand-knitting differs in tension. If the knitted sample does not match the pattern gauge, the knitter must either change the needle size or the thickness of the yarn. This will assure the proper finished size of the garment. If the gauge measure is too large, a smaller needle or a thinner yarn is required. If the gauge measure is too small, a larger needle or a thicker yarn needs to be used.

History. The origin of knitting is not known, but the craft has been practiced by many cultures for centuries. Knitting probably began about A.D. 200 in Arabia. As neighboring peoples traded with the Arabs, the technique gradually became known to much of the ancient world over the next few hundred years.

Peoples of the Middle East taught Europeans how to knit during the 600's. Knitting *guilds* (workers' unions) were soon formed throughout Europe, and for the rest of the Middle Ages, knitting was considered as much an industry as weaving. Knitters had to serve as apprentices for six years before they could enter a guild. Knitters also had to prove their ability to knit stockings, berets, shirts, and after 1602, elaborately designed carpets.

The Spanish carried knitting to South America and Central America in the 1500's, but this art may have already been known by some people there. In Spanish-American cultures, knitting became a popular and practical pastime for the peasants.

In cold climates, knitting has always been an essential way of creating warm clothing. Some examples are the knitted hats of the Peruvians in the Andes Mountains and the fisherman's sweaters of Ireland. Dona Z. Meilach

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Knitting machine is a device that makes fabric by forming loops in yarn and linking them to one another by means of needles. Knitting machines use many needles and produce up to 12 million stitches per minute. Fabrics produced by knitting machines range from delicate lace to heavy drapery and rugs. Other common knitted-fabric products include hosiery, sweat shirts, and many other kinds of clothing.

There are two main types of knitting machines—*weft knitting machines* and *warp knitting machines.* Each type produces a different fabric.

Weft machines knit crosswise loops using one contin-



Burlington Industries, Inc.

Knitting machines produce fabric with amazing speed. The circular machine shown here has its needles arranged on a rotating cylinder. It produces a tube-shaped fabric.

uous yarn, and produce a fabric that stretches easily. Most weft machines are *circular*—that is, their needles are arranged in a circle on a rotating cylinder. As the cylinder turns, the machine knits a tube-shaped fabric. Small-diameter machines make stockings and socks.

Warp machines knit lengthwise loops with many interlocking yarns, and produce a flat fabric that is less elastic than a weft-knit fabric. Most warp machines have their needles arranged in a straight line.

Many design effects can be created on knitting machines by using different types of yarns and stitches. Some machines can be programmed to drop and add stitches to produce fabric that is shaped according to a specific pattern. This technique is known as full fashioning.

William Lee, an English minister, invented the weft knitting machine in 1589. Lee's device was operated by hand. Warp knitting developed in England and France in the late 1700's. Marc Isambard Brunel, an English engineer and inventor, patented a circular knitting machine in 1816. In 1864, William Cotton, an English textile worker, patented the first successful machine that could knit full-fashioned fabric. Trevor J. Little

See also **Stockings**; **Textile** (Knitted fabrics; picture: Knitting).

Knock. See **Gasoline** (Gasoline octane ratings); **Octane number.**

Knopf, *knahpf,* **Alfred A.** (1892-1984), was a leading American book publisher. Knopf published the work of hundreds of the most important authors of the 1900's, including 16 winners of the Nobel Prize for literature. Working closely with his wife, Blanche, he introduced many European, Latin-American, and Asian writers to American readers. Knopf also gained respect for insisting on high-quality printing and design.

Knopf was born in New York City. He founded the publishing company Alfred A. Knopf, Inc., in 1915. He was its president from 1918 to 1957, and chairman of the board from 1957 to 1972. From 1972 until his death he was chairman emeritus but maintained an active interest in the company. Knopf was also an amateur photographer, and he published many of his own informal portraits of authors he had known. John F. Baker

Knossos, *NAHS uhs,* also spelled *Cnossus,* was the chief center of the Minoan civilization, which flourished on Crete and some Aegean Sea islands from about 3000 to 1150 B.C. The culture was named for the legendary King Minos of Crete. Knossos stood on Crete's north-central coast.

Knossos dates from about 4000 B.C. The city's first great palace, built around 2000 B.C., was destroyed by an earthquake in 1700 B.C. A second palace burned and collapsed about 1400 B.C. Knossos was the leading Greek city-state on Crete until the Romans conquered the island in 67 B.C. It continued as an important state until the A.D. 300's. In 1900, Sir Arthur Evans, a British archaeologist, began the excavation of the palace at Knossos. His work added much new information about the Aegean area's Bronze Age. Norman A. Doenges

Related articles in *World Book* include:

Achaeans
Aegean civilization
Architecture (Minoan architecture)
Clothing (picture: The Cretans)
Dorians
Minos
Minotaur

Knot is a unit of speed used for ships and aircraft. It equals one nautical mile an hour. A ship with a 20-knot speed can go 20 nautical miles in an hour.

The *international nautical mile* equals one-sixtieth of one degree, or a minute of arc, of the earth's circumference. Navigators use the nautical mile because of its simple relationship to the degrees and minutes by which latitude and longitude are measured. The international nautical mile equals exactly 1.852 kilometers, or 6,076.115 international feet, or 1.151 statute miles.

The term *knot* came into use in the earlier days of sailing, when ships carried a speed-measuring device called a *log chip and line.* The line was wound up on a reel. The chip, a piece of wood, was allowed to drag in the water behind the ship. The chip caused the line to unreel as the ship moved. The line was knotted at intervals of 47 feet 3 inches (14.4 meters). At the end of the first interval was one knot. Two knots marked the end of the second, and so on. The line was allowed to run for 28 seconds. An interval of twenty-eight seconds is to one hour approximately what a distance of 47 feet 3 inches is to 6,076 feet. Therefore, if the log had pulled out 5 intervals of line in 28 seconds, the sailors knew the ship was moving at 5 knots, or 5 nautical miles an hour.
Richard S. Davis

See also **Log**; **Mile.**

Knots, hitches, and splices are methods used to tie ropes or to fasten them together. Most persons call any method of tying rope a knot. But experts generally recognize a difference between knots, hitches, and splices. A *knot* is any fastening made with cords or ropes. A *hitch* is used to tie a rope to a ring, spar, post, or other object. A *splice* permanently joins the ends of two ropes, or forms a single rope into a permanent loop. A fourth type of knot, the *bend,* is used to tie the ends of two ropes together.

A rope with a knot in it is weaker than an unknotted rope. For example, a square knot weakens a rope by 50 per cent, and a bowline weakens a rope by 40 per cent. In general, hitches weaken a rope less than knots and bends do, and splices weaken a rope even less than hitches do.

Uses of knots

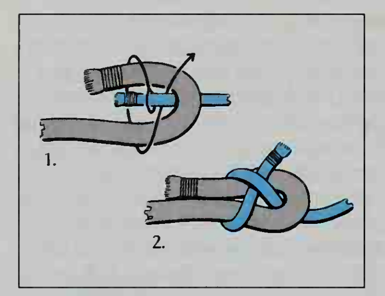
In spite of the development of wire rope and mechanical fastenings, knots are still important to people in many occupations. The ability to tie knots has always been one of the chief skills required of sailors, and remains important on ships and boats. Sailors use knots to fasten ropes on objects to be lifted on or off vessels. Sailboat owners must master the skill of tying knots in order to adjust the *rigging*—lines attached to the sails, booms, and masts. See **Sailing** (The parts of a sailboat [Rigging]).

Sports enthusiasts use knots to set up tents, to prepare fishing tackle, to build traps, and to do hundreds of other jobs. Surgeons must tie the tiny knots in *sutures* (threads) used to close incisions.

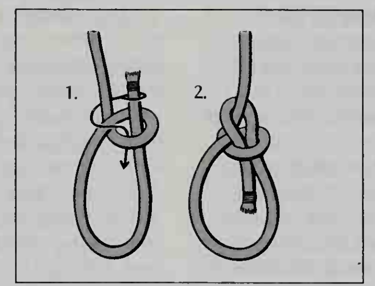
Knots are widely used on farms. For example, farmers have to be able to tie knots in the rope used to make halters for animals. Knots are also used to hitch horses, cows, and other animals to posts. Farmers often have to rig blocks and tackles to lift hay or other products into barns (see **Block and tackle**).

Some knots, hitches, and splices

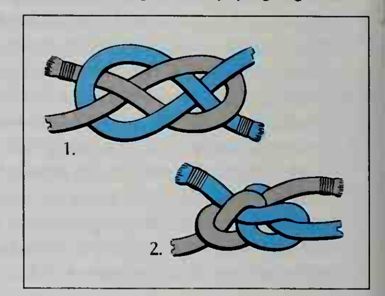
Knots, hitches, and splices are methods used to tie ropes or to fasten them together. They are also used for thread, string, and similar material. Knots, hitches, and splices resemble each other and are often called by the general term *knot.* But a knot refers to a fastening made by tying together



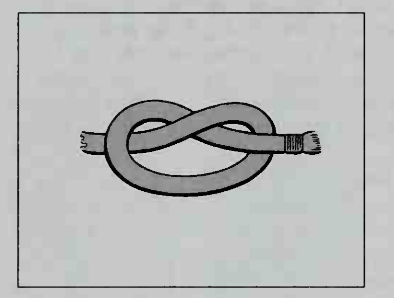
The sheet bend is used primarily to join two ropes of different sizes. It is also called the *weaver's knot.*



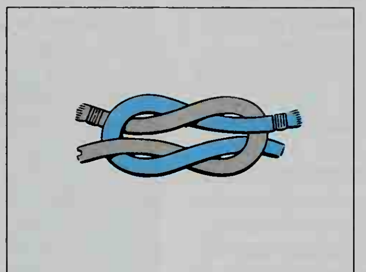
The bowline is a loop knot that will not jam or slip if tied properly. It is commonly used for lifting objects.



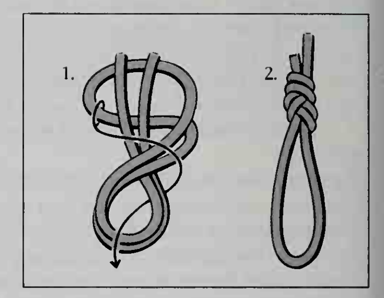
The carrick bend is used to tie large ropes together. A very strong knot, it is easily untied and does not jam.



The overhand knot is the smallest, simplest, and most common knot. It often serves as the beginning of other knots.



The granny knot is often tied by mistake instead of a square knot. It can be dangerous because it slips and jams.



The angler's knot is a safe, strong knot used in fishing to tie a loop in a leader, which connects the hook with the line.

Other persons who make wide use of knots and rope include explorers, mountain climbers, builders, and weavers. Boy Scouts and Girl Scouts learn the art of tying knots because of their use in camping and hiking.

Tying knots

The language of knots was developed to name the various parts of a rope and the simple shapes into which they can be formed. The *end* of a rope is the part with which knots are tied. The rest of the rope is called the *standing part.*

The simple shapes that can be made with rope form the basis for all knots. A person forms a *bight* by placing the end of the rope alongside the standing part to form a loop. In an *overhand loop,* the end of the rope is crossed over the standing part. An *underhand loop* is the opposite of an overhand loop. It is formed by placing the end of the rope beneath the standing part. An *overhand knot* is a loop through which an end has been passed. This knot is used on the end of a rope as a stopper to keep it from running through small openings.

Preparing rope for knots. You can use most rope for knot tying without preparing it. However, most experts do two things to a rope before putting it to use. Most new rope is stiff, so experts usually *work* the rope, or stretch, twist, and pull it to take the stiffness out.

The most important thing that must be done to a new rope is *whipping.* This means tying the ends so they do not unravel. There are several ways of whipping a rope. In one simple method, form a piece of light yarn into a loop and place it along the rope near the end to be whipped. Then tightly wind the yarn around the loop and rope to bind them together. Keep winding until the length of the whipping equals the rope's diameter, but leave a small part of the yarn loop exposed. When the winding is completed, draw the short end of the twine through the loop, and pull both ends until the loop is drawn beneath the winding. Trim the ends of the yarn.

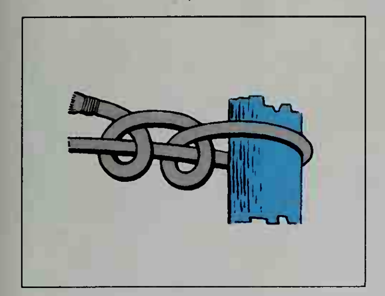
Sailors often use a more difficult way to whip rope. They call it the *palm and needle* method because it involves the use of a needle similar to that used for sewing, and a leather glove, or palm. The palm is used to force the needle through the rope.

Useful knots. Choosing the right knot is an important part of working with rope. Most knots have been developed to meet a particular need. Some of the most useful knots are described and illustrated with this article.

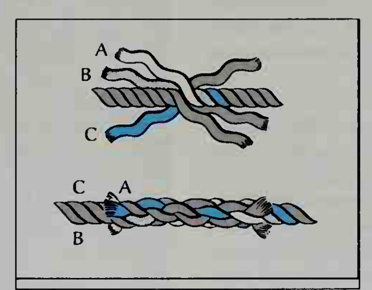
The square knot is probably the best known and most widely used knot. It serves to join the ends of two ropes, and has the advantage of strength and ease of tying and untying. It slips or jams only if pulled around a corner. Under such conditions, a *carrick bend* or a *splice* must be used. People use square knots to tie packages and to fasten towing lines. Most people use a variation of the square knot to tie their shoes. An improperly tied square knot is called a *granny knot.* A granny knot may come loose under pressure and should not be used.

The bowline has a wide range of uses. It ranks as one

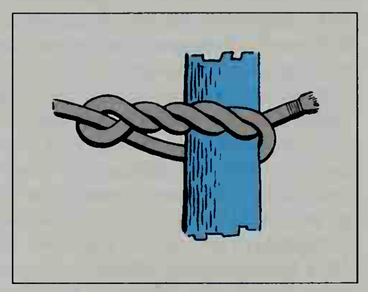
pieces of one or more ropes. A hitch is used to tie a rope to a ring, a post, or some other object. A splice forms a loop from one rope or joins the ends of two ropes. There are dozens of useful knots, hitches, and splices. These illustrations show some of the most common ones.



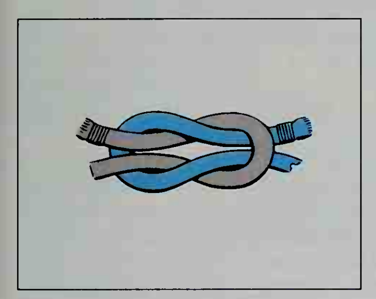
Two half hitches is the name of a knot used to temporarily but quickly fasten a line to a post, a hook, or a ring.



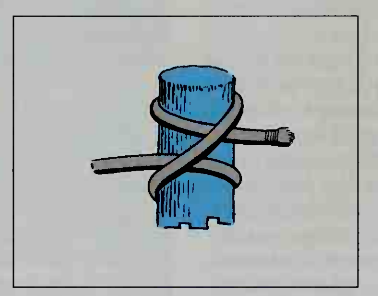
The short splice is the strongest splice. It is used to make a sling by joining two ropes or two ends of the same rope.



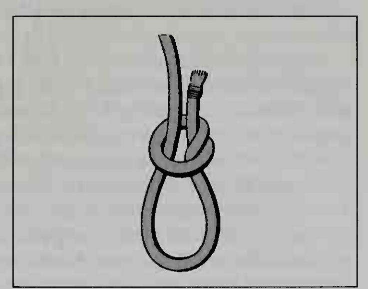
The timber hitch is a strong knot used for lifting crates and bales and towing logs and other cylindrical objects.



The square knot is the most widely used knot for tying packages. It unties easily when either free end is pulled.



The clove hitch, or *ratline hitch,* is a quick and simple method of fastening a rope around a post or a stake.



The slipknot slides along the rope around which it is made. It can be used to make a temporary noose or a lasso.

of the basic knots. At the end of a rope, the bowline forms a strong loop that will not slip or jam if properly tied. Its uses include fastening animals to objects and forming seats from which people may be suspended while painting, cleaning, or doing other jobs.

Two half hitches are used to fasten a rope temporarily to a post, hook, or ring. Other useful hitches include the *clove hitch* for fastening rope to smooth timbers, and the *timber hitch* for dragging logs.

History

Knots are one of the oldest inventions. People used them to tie arrowheads to their shafts, and to tie bowstrings to bows. Other early uses of knots included making clothes and fishing nets, and binding wood together to make a hut or other shelter. The ancient Inca Indians of Peru used knots to keep records of sums and figures.

One of the most famous knots is the Gordian knot, mentioned in Greek mythology. This knot was so intricate that legend said that the man who could untie it would rule Asia (see **Gordian knot**). Rob Hunter

See also **Macramé; Rope.**

Additional resources

Adkins, Jan. *String: Tying It Up, Tying It Down.* Scribner, 1992. Younger readers.

Pawson, Des. *The Handbook of Knots.* D K Pub., 1998.

Knotweed is the name of a large group of weeds found in the northern United States and in Canada. A knotweed has jointed stems that lie flat against the ground. It has many branches that form a thick mat. The leaves are bluish-green and the flowers greenish-pink. Knotweeds are also known as *fleece flowers.*

Harold D. Coble

Scientific classification. Knotweeds are in the buckwheat family, Polygonaceae. They are classified as genus *Polygonum.*

Know-Nothings were members of certain secret societies that flourished in the United States from 1852 to 1860. They objected to immigration and the election or appointment of Roman Catholics and the foreign-born to official positions. They also opposed the Catholic Church. They soon formed the American Party, often called the Know-Nothing Party. Their meetings were held secretly. When anyone who was not a member asked a Know-Nothing any question about the party, the member's reply was supposed to be, "I don't know." Constant repetition of this phrase gave the party its popular name. In the state elections of 1854, the Know-Nothings carried Massachusetts, polled large votes in New York and Pennsylvania, and gained a considerable following in the South. The Know-Nothings split over the slavery question in the election of 1856, and the party rapidly declined. Robert F. Dalzell, Jr.

Knox, Frank (1874-1944), was a prominent American politician and publisher. He ran for vice president of the United States with Alfred M. Landon on the Republican ticket in 1936 but was defeated. Although a staunch Republican, he supported President Franklin D. Roosevelt's

foreign policy. In 1940, Roosevelt appointed him secretary of the Navy. Knox remained in this post until his death. After the United States entered World War II in 1941, Knox selected the officers who planned the major U.S. naval campaigns. He also oversaw the enormous expansion of the U.S. fleet.

Knox became publisher of the *Sault Sainte Marie* (Michigan) *News* in 1901. He took charge of the *Boston American* and *Advertiser* in 1927. The following year, he became general manager of all Hearst papers. He bought a controlling interest in the *Chicago Daily News* in 1931 and served as its publisher until 1940.

William Franklin Knox was born in Boston on Jan. 1, 1874. He served with Theodore Roosevelt's Rough Riders in the Spanish-American War (1898) and as an Army officer in World War I (1914-1918). Alonzo L. Hamby

Knox, *nahks,* **Henry** (1750-1806), was an American Revolutionary War general and the nation's first secretary of war. He was one of George Washington's most trusted officers.

Knox was born on June 25, 1750, in Boston. He joined the Boston Grenadier Corps in 1772 and studied military science and engineering. In 1775, he became a colonel in charge of the artillery of the Continental Army. Knox directed Washington's troops when they crossed the Delaware River in December 1776 and then marched on Trenton, New Jersey. Washington commended him publicly for his role in the campaign, and Knox was promoted to brigadier general. Knox fought in various battles around New York City, and at Brandywine, Pennsylvania; Germantown, Pennsylvania; Monmouth, New Jersey; and Yorktown, Virginia.

In 1779, Knox suggested establishing a military academy at West Point. He sat on the court-martial that condemned British Major John André in 1780 (see **André, John**). Knox became a major general in 1781. In 1783, he and other officers founded the Society of the Cincinnati. This organization was made up of American officers who had fought during the Revolutionary War (see **Cincinnati, Society of the**).

Knox became secretary of war in 1785, before the adoption of the Constitution. Washington reappointed him in 1789. In 1790, Knox proposed that a national militia (later the National Guard) be organized, but Congress rejected the plan. Paul David Nelson

Knox, *nahks,* **John** (1514?-1572), led the Protestant Reformation in Scotland. His strong personality and fiery preaching made him one of the most powerful Scots of his day. Under the leadership of Knox, the Church of Scotland adopted a declaration of faith, a form of government, and a liturgy. The Church reflected the teachings of the reformer John Calvin, who greatly influenced Knox.

Early years. Knox was born near Haddington, east of Edinburgh. Little is known of his early life, except that he probably attended the University of St. Andrews. He became a Roman Catholic priest in 1536. In those days, Scotland was one of Europe's poorest countries. For years, Scottish kings had been weak. Some had been children controlled by regents. The country was often torn by conflict between nobles. The church owned much of the wealth, and the kings and nobles controlled the church. Politically, Scotland was merely one small part of the rivalry between France and England.



Detail of an engraving (1580) by an unknown artist; Scottish National Portrait Gallery, Edinburgh

John Knox

During Knox's early years, a few Scots tried to become Protestant reformers, though they had little hope for reform in either church or government. In the early 1540's, Knox became a follower of the Protestant reformer George Wishart. Early in 1546, Wishart was arrested on the orders of Cardinal Beaton of St. Andrews, and was burned at the stake on a charge of heresy. In revenge, a group of Protestants assassinated the cardinal later that year and seized the castle of St. Andrews, his residence. Knox did not take part in the assassination, but he joined the Protestants in the castle. Mary of Guise, the Roman Catholic pro-French regent of Scotland, asked for assistance from France. The French fleet captured the castle of St. Andrews in July 1547, and Knox and several others were taken to France as galley slaves.

Later career. In 1549, the English government obtained the release of Knox and his associates. The government wanted them to build a pro-English Protestant party in Scotland. However, the pro-French Catholics in Scotland were too strong, so Knox went to England as a minister. He preached in Berwick for two years and became known as a radical Protestant reformer. In 1553, Mary Tudor became queen of England and made Roman Catholicism the state religion again. Knox was one of the *Marian Exiles*—Protestants who fled to the European continent as religious refugees. While there, Knox met John Calvin in Geneva.

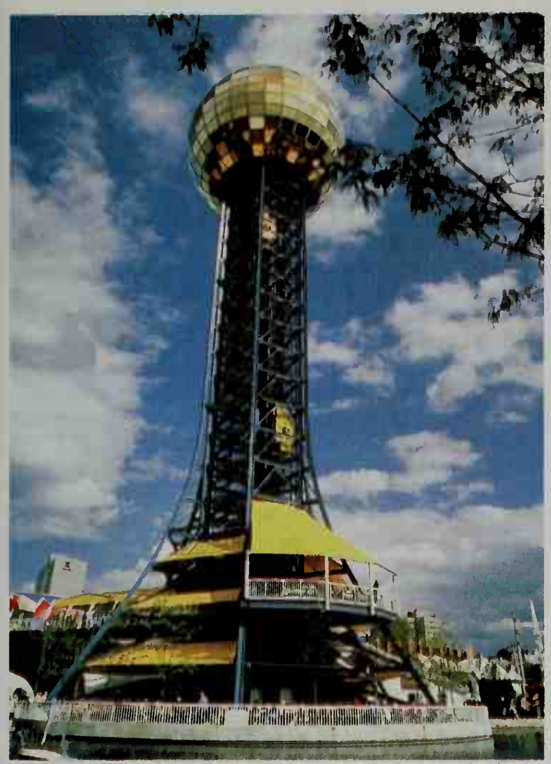
Late in 1554, Knox became pastor of a church of English refugees in Frankfurt (am Main), Germany. He was forced to leave Frankfurt after a conflict with moderate Protestants. He returned to Geneva with most of the English radicals from Frankfurt, and founded a new refugee church. In Geneva, Knox corresponded secretly with Protestants in England, Scotland, and France. He also wrote pamphlets justifying the rights of persecuted people to rebel against tyrannical rulers.

Queen Mary died in 1558, and her successor, Queen Elizabeth, restored England's independent state religion. Many Marian Exiles returned, and Knox arrived in Scotland in 1559. The English government helped him and his associates establish Protestantism as Scotland's national religion. Under Knox's leadership, the Scottish Parliament established a Reformed Protestant national church in 1560.

From 1560 until his death, Knox was Scotland's most powerful political and religious leader. He was appointed minister of Edinburgh and preached at St. Giles's Cathedral, which became the political and religious center of Scotland. His unfinished *History of the Reformation of Religion in the Realm of Scotland* is a dramatic autobiographical account of the Scottish Reformation to about 1564. Peter W. Williams

See also **Calvin, John; Presbyterians; Reformation.**

Knoxville, *NAHKS vihl* (pop. 173,890; met. area pop. 687,249), is one of the largest cities in Tennessee. Knox-



Tennessee Tourist Development

The 1982 World's Fair in Knoxville attracted millions of visitors. The Sunsphere, *shown here,* a 266-foot (81-meter) tower, symbolized the fair's theme, "Energy Turns the World."

ville also ranks as a commercial, educational, and industrial center of Tennessee. For location, see **Tennessee** (political map).

Knoxville lies on the Tennessee River in the heart of the Appalachian Ridge and Valley Region of eastern Tennessee. The Tennessee Valley Authority (TVA), a federal development agency, has its headquarters in Knoxville. The city also serves as the gateway to Great Smoky Mountains National Park.

In 1786, the James White family of North Carolina became the first permanent settlers in the area of what is now Knoxville. White, a trader and farmer, chose the site due to its location near the junction of three rivers used as travel routes. In 1791, the site became part of the newly organized Territory of the United States South of the River Ohio. William Blount became territorial governor. White's settlement, named Knoxville to honor Secretary of War Henry Knox, became the new territory's capital.

Description. Knoxville, the county seat of Knox County, covers 78 square miles (202 square kilometers). The Knoxville metropolitan area occupies 2,449 square miles (6,342 square kilometers).

Knoxville is the home of Knoxville College, Pellissippi State Community College, and the main campus of the University of Tennessee. The Knoxville Symphony Orchestra performs regularly throughout the year. Places of interest in Knoxville include the Knoxville Museum of Art, Knoxville Zoological Park, the Women's Basketball Hall of Fame, and restorations of the log cabin and a fort that James White built in 1786. Blount House, built for Governor William Blount in 1792, is one of the oldest frame houses west of the Blue Ridge Mountains.

The economy of Knoxville depends heavily on the Tennessee Valley Authority, the University of Tennessee, the Oak Ridge National Laboratory, and the U.S. Department of Energy facilities at Oak Ridge. Manufacturing is a less significant part of the city's economy than it once was. Service industries have become increasingly important. The West Town Mall and Knoxville Center shopping complexes help make the city the major commercial center of eastern Tennessee. Tourism in the area has grown. Gatlinburg in the Great Smoky Mountains and Pigeon Forge, with its country-music theaters, outlet malls, and Dollywood theme park, attract many visitors.

Government and history. Knoxville has a mayor-council form of government. City voters elect the mayor and nine city council members to four-year terms.

Cherokee Indians lived in the Knoxville area when the White family arrived in 1786. Knoxville was incorporated in 1791. It was the capital of Tennessee from 1796 to 1812. During the American Civil War (1861-1865), Union troops led by Major General Ambrose E. Burnside defeated Confederate forces under General James Longstreet in Knoxville. Rapid industrial development after the war led to a population boom. The city's population rose from 8,682 in 1870 to 32,637 in 1900.

Congress established the TVA in 1933. TVA dams made the Tennessee River navigable to large vessels from New Orleans to Knoxville via the Mississippi and Ohio rivers. The dams also created new supplies of electric power. Today, most of TVA's electric power comes from nuclear and coal-burning plants.

In the last half of the 1900's, many old buildings near the center of Knoxville were torn down and replaced by new ones. A World's Fair was held in the city in 1982. Redevelopment of an old industrial area along the Tennessee River began in the 1990's and continued into the 2000's. The project included the construction of parks, condominiums, and restaurants. Charles S. Aiken

See also **Tennessee** (Climate).

Koala, *koh AH luh,* is an Australian mammal that looks like a teddy bear. It is sometimes called a *koala bear* or *native bear,* but the koala is not related to any kind of bear. Koalas have soft, thick fur; a large, hairless nose; round ears; and no tail. The fur is gray or brown on the animal's back and white on the belly. Koalas measure from 25 to 30 inches (64 to 76 centimeters) in length and weigh 15 to 30 pounds (7 to 14 kilograms).

Koalas have sharp, curved claws; long toes; and a strong grip. They spend nearly all their time in trees and come down only to move to another one. Koalas are active mainly at night. They sleep most of the day in the fork of a eucalyptus tree. Koalas eat mainly the leaves and young shoots of eucalyptus trees. They obtain liquids chiefly from eucalyptus leaves. Koalas that live in the wild rarely drink water. The word *koala* comes from an Australian Aborigine word meaning *no drink.*

Koalas are *marsupials.* Female koalas give birth to tiny, poorly developed offspring. The young koala, known as a *joey,* is carried inside of a pouch on its mother's belly until it is more completely developed. Unlike most other marsupials, the koala has a pouch that opens toward the rear of its body. The young koala remains inside of the



Bill N. Kleeman, Tom Stack & Associates

A female koala, shown eating a eucalyptus leaf, carries her *joey* (young) on her back. The joey spends its first seven months in the mother's pouch and the next six riding on her back.

pouch for about seven months, suckling on one of the mother's two nipples. It spends the next six months riding on its mother's back. See **Marsupial.**

At one time, koalas were hunted for their fur. By the 1920's, the animals had been almost wiped out by hunters. Since then, killing of koalas has been prohibited by law. But the koala population has continued to decline. People have cut down eucalyptus forests for housing developments, resorts, and farmland. Many koalas are hit by cars. Much of the koala population is also infected by *chlamydia,* a disease that can cause blindness, infertility in females, and pneumonia. Australian and international conservation organizations are working to counteract the effects of the disease. Michael L. Augee

Scientific classification. The koala forms the family Phascolarctidae. It is *Phascolarctos cinereus.*

Kobe, *KOH bee* (pop. 1,493,595), is one of the most important seaports of Japan. It stands on the south coast of Honshu Island. For location, see **Japan** (political map).

Kobe was built on a narrow, fan-shaped plain that stretches between the sea and a row of high mountains to the north. The mountains protect the city from severe winters. Kobe has long rows of docks, and is an important center of heavy industry and shipbuilding. It also produces aircraft and textiles. Many people worship at the ancient Buddhist temple of Nofukuji, which houses a wooden statue carved about 794.

Kobe was founded in the 1100's. Commerce became important to the city after Japan began trading with other countries in the mid-1800's. In 1956, construction of new buildings and repair of harbor facilities made Kobe the leading export and import center of Japan. On Jan. 16, 1995, a major earthquake struck the Kobe area. It caused over 6,000 deaths and enormous property destruction and damage. Kenneth B. Pyle

Kobuk Valley National Park, *KOH buk* or *koh BUK,* is in northwestern Alaska. It is bounded by the Baird Mountains on the north and the Waring Mountains on the south (see **Alaska** [political map]). The park includes forests and a treeless area called *tundra.* The Great Kobuk Sand Dunes, some of the few sand dunes in the Arctic region, lie near the center of the park. Black bears, grizzly bears, caribou, moose, and wolves roam the area. The area became a national monument in 1978 and a national park in 1980. For the park's area, see **National Park System** (table: National parks).

Critically reviewed by the National Park Service

Koch, *kawhk* or *kohk,* **Robert** (1843-1910), a German physician, played a key role in helping bacteriology develop as a science during the 1800's. He introduced new techniques of staining and *culturing* (growing) bacteria, and he became the first scientist to show that specific bacteria cause certain diseases. Koch discovered the causes of tuberculosis and other diseases. He received the Nobel Prize in physiology or medicine in 1905 for his work on tuberculosis.

Koch was born in Clausthal, near Hanover, on Dec. 11, 1843. He earned a medical degree at Göttingen in 1866. In 1872, Koch moved to Wollstein (now Wolsztyn, near Poznań, Poland). He began to study anthrax, a disease that affects people and livestock. Koch discovered that rodlike bacteria in the blood of diseased animals caused anthrax. He published his findings in 1876. His research on the anthrax bacterium became a model for the study of germs that cause specific diseases. See **Anthrax.**

Koch won fame in 1877, when he published an article describing a method to study bacteria. The method included examining thin films of bacterial cultures on glass slides and photographing them to record their structure. The same year, he published a book that described a series of steps to determine whether a certain germ causes a particular disease. These steps, now known as *Koch's postulates,* are still used by bacteriologists. See **Bacteriology** (Studying bacteria).

In 1882, Koch discovered the germ that causes tuberculosis (see **Tuberculosis**). Also in the early 1880's, he developed bacterial cultures that he grew in gelatin, agar, and similar solid substances—a technique that revolutionized bacteriology. Koch discovered the cause of cholera epidemics in Egypt and India in 1883 and 1884. In 1891, Koch founded and became director of the Institute for Infectious Diseases in Berlin. In 1897, he demonstrated the cause and cure for rinderpest, a disease killing cattle in what is now South Africa. In 1905, he conducted important research on sleeping sickness in what is now Tanzania. John Scarborough

See also **Medicine** (Scientific study of the effects of disease; picture: Anthrax germs).

Kodak. See **Eastman, George; Photography** (The beginnings of modern photography).

Kodály, *koh DY* or *koh DAH ee,* **Zoltán,** *ZAWL tahn* (1882-1967), was a Hungarian composer, music historian, and educator. Along with his friend, Hungarian composer Béla Bartók, Kodály promoted modern music and collected and studied the folk music of Hungary and its surrounding regions.

Kodály composed extensively for almost 70 years. His compositional style, like that of Bartók, is rooted in Hungarian folk idioms. But Kodály's music is less intellectually complex than Bartók's more advanced works.

Kodály believed strongly in the expressive capabilities of the human voice, and his compositions are characterized by the beauty and inventiveness of their vocal lines. His best-known works are *Psalmus hungaricus* (1923)

and *Missa brevis* (1945), both for chorus and orchestra; and the orchestral suite (1927) from his opera *Háry János* (1926). Kodály's method of music education was based on the idea that choral singing is the easiest and most rewarding way for most people to learn about music. Kodály institutes have been established throughout the world. The International Kodály Society, based in Budapest, was founded in 1975. Kodály was born on Dec. 16, 1882, in Kecskemét. Stewart L. Ross

Koestler, *KEHST luhr,* **Arthur** (1905-1983), was a Hungarian-born novelist and essayist. His life and works reflect the political upheavals of the 1900's. Koestler was a Communist from 1931 to 1937. His most successful political novels, *Darkness at Noon* (1941) and *Arrival and Departure* (1943), reject dictators and Communism.

Koestler was born on Sept. 5, 1905, in Budapest, Hungary. Serving as a foreign correspondent in the Spanish Civil War (1936-1939), he was jailed by the fascists. He described this experience in *Spanish Testament* (1937). Koestler served as a volunteer in the French and British armies in World War II (1939-1945). Russell A. Berman

Kofun era was the time in Japanese history from about A.D. 300 to 710. It was called the Kofun era because dead leaders were buried in large tombs called *kofun.* It is sometimes called the Yamato period because the emperors began to rule from the Yamato area, around what is now the city of Nara. Japan's royal family traces its ancestry to the emperors of the Kofun era.

In the later part of the Kofun era, Chinese culture and Buddhism greatly influenced the development of Japanese art, literature, and government. Buddhism became popular among rulers and leading families, but Shinto remained a chief religion. In 646, the emperor began the Taika Reform, a program to establish a central government. In 710, the central government was moved to Nara, and the Nara period began. Tetsuo Najita

Kohl, Helmut, *HEHL moot* (1930-), was chancellor of West Germany from 1982 to 1990, and chancellor of reunified Germany from 1990 to 1998. From 1949 to 1990, Germany had been divided into two countries—West Germany and East Germany.

Kohl played a key role in the reunification of Germany. He supported close ties between West Germany and the United States and forged new links with the Soviet Union. He supported a common European currency. In domestic policy, Kohl advocated free enterprise. But his government faced tough problems after reunification. Unemployment rose, especially in eastern German states. Neo-Nazis and other right-wing groups protested immigration and attacked foreigners.

Kohl was born on April 3, 1930, in Ludwigshafen, Germany. He attended the University of Frankfurt and earned a Ph.D. in political science from Heidelberg University. Kohl served in the parliament of the West German state of Rhineland- Palatinate from 1959 to 1976. He was prime minister of Rhineland-Palatinate from 1969 to 1976. Kohl became chairman of the Christian Democratic Union (C.D.U.) in 1973. In 1976, he became a member of West Germany's lower house of parliament.



Reuters/Bettmann

Helmut Kohl

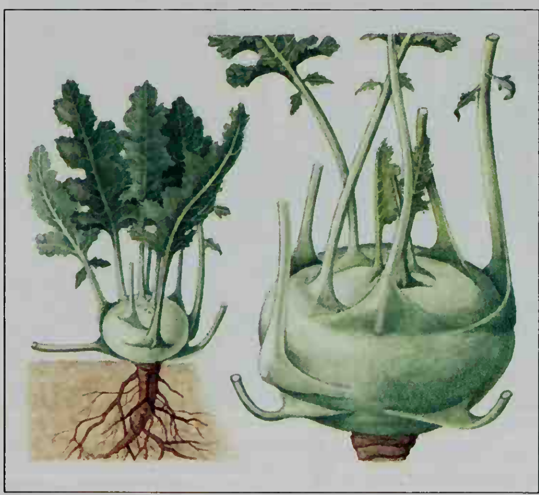
Kohl became chancellor of West Germany in 1982. The upper house of parliament had voted to remove Helmut Schmidt from office and replace him with Kohl. In elections in 1983 and 1987, the C.D.U. won the most seats in parliament and formed a coalition government with the Free Democratic Party. Kohl remained chancellor. West Germany and East Germany were reunified into the nation of Germany on Oct. 3, 1990, with Kohl as chancellor. Kohl's coalition won a majority in the parliamentary elections of 1990 and 1994, but failed to win a majority in 1998. Kohl stepped down both as chancellor of Germany and as chairman of the C.D.U. in 1998.

In 1999, Kohl admitted that the C.D.U. had engaged in illegal fund-raising while he was chairman. The scandal damaged his reputation. Melvin Croan

Köhler, *KUHL ur,* **Wolfgang** (1887-1967), a psychologist, helped to develop Gestalt psychology. Gestaltists argue that behavior is best understood when studied as an organized pattern rather than as separate parts. Köhler's pioneering studies of behavior in apes showed the importance of perceptual organization and insight in learning. Köhler was born on Jan. 21, 1887, in Reval, Estonia. He moved to Germany as a child. In 1935, he moved to the United States. See also **Gestalt psychology; Learning** (Insight learning). Kenneth E. Clark

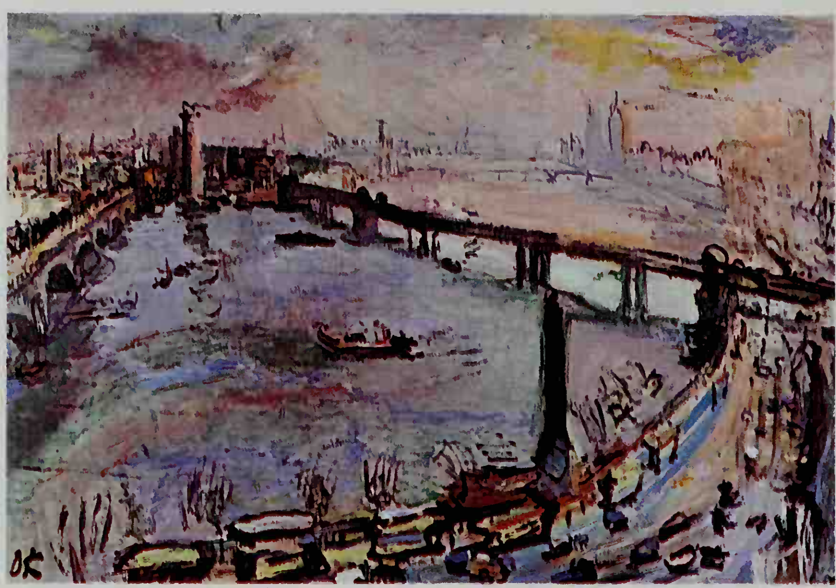
Kohlrabi, *kohl RAH bee* or *KOHL rah bee,* is a garden vegetable grown for its large, edible stem. The top of the stem is shaped like a bulb and grows just above the ground. The flesh inside this bulb is often eaten raw in salads. It may also be steamed, boiled, or baked. The bulb looks and tastes like a turnip, but it is sweeter and more delicate. Kohlrabi is closely related to cabbage.

Most varieties of kohlrabi are light green, though some are purple. The leaves grow on thin stalks from the bulblike part of the stem. When they are young and tender, the leaves may be eaten as greens. Kohlrabi is a good source of vitamin C. It grows best at temperatures between 60 and 65 °F (16 and 18 °C) and matures in 50 to



WORLD BOOK illustration by Jill Coombs

The kohlrabi plant has an edible, bulb-shaped stem.


Oil painting on canvas (1926); Albright-Knox Art Gallery, Buffalo, N.Y., Room of Contemporary Art Fund

Kokoschka's *View of the Thames* was one of several panoramic views of cities that the artist painted between 1924 and 1931. This painting shows the restless feeling and broad brushstrokes typical of Kokoschka's style.

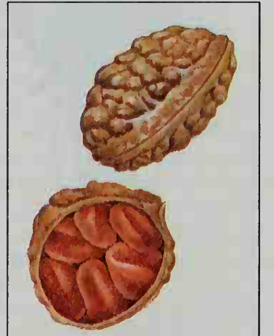
60 days. Kohlrabi should be picked when the bulb is 2 to 3 inches (5 to 8 centimeters) in diameter. Hugh C. Price

Scientific classification. Kohlrabi is in the mustard family, Brassicaceae or Cruciferae. It is *Brassica oleracea gongylodes.*

Kokoschka, *koh KAWSH kuh,* **Oskar** (1886-1980), was an Austrian painter associated with the expressionist movement. Kokoschka painted his best-known pictures in a restless, energetic style that reflects a feeling of anxiety and agitation. He used broad brushstrokes and light colors. Kokoschka's painting *The Tempest* is reproduced in the **Painting** article.

Kokoschka was born on March 1, 1886, in Pöchlarn, near Sankt Pölten. His first paintings were portraits of friends and prominent individuals that skillfully capture the inner nature of the subject. About 1914 he became more interested in large symbolic paintings. Kokoschka traveled through Europe from 1924 to 1931, painting dramatic views of major cities, usually from an elevated viewpoint. He lived in Vienna from 1931 to 1934 when he was forced to flee because of his criticism of the Nazi Party in Austria. From 1938 to 1948 he lived in London, where he painted many historical and mythological subjects as well as landscapes. Kokoschka lived primarily in Switzerland from 1948 until his death. Pamela A. Ivinski

Kola nut, also spelled *cola,* is the seed of several types of evergreen trees that are native to West Africa. Kola nuts are used in making soft drinks and medicines. They contain the chemicals caffeine and theobromine, which have a mild, stimulating effect.


WORLD BOOK illustration by Stuart Lafford, Linden Artists Ltd.

Kola nuts

Kola nut trees reach heights of about 60 feet (18 meters). They have oblong, leathery leaves, yellow flowers, and star-shaped fruit. Each fruit contains several irregularly shaped, fleshy kola nuts. The nuts can be either white or red. Kola nuts usually measure about 1 $\frac{1}{2}$ inches (3.8 centimeters) long.

Many people in Africa chew kola nuts like gum. They call them *guru* or *goora* nuts. Kola nuts are grown in Asia, South America, western Africa, and the West Indies. Michael J. Tanabe

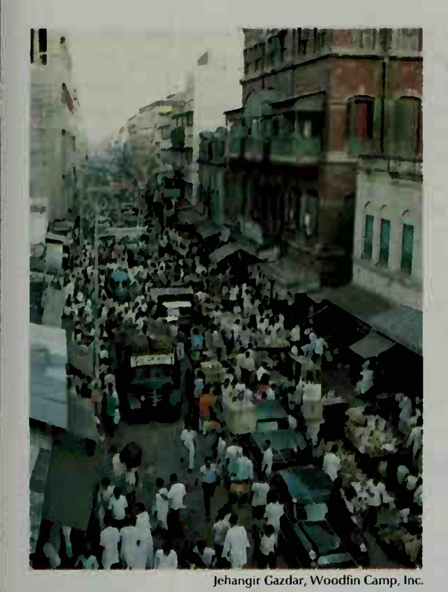
Scientific classification. Kola nuts belong to the family Sterculiaceae. The scientific name for an important commercial species is *Cola acuminata.*

Kolkata (pop. 4,580,544; met. area pop. 13,216,546) is India's third largest city. Only Mumbai and Delhi have more people. Kolkata serves as India's chief port for trade with Southeast Asia. It lies along the Hooghly River about 60 miles north of the Bay of Bengal (see **India** [political map]). Kolkata is the capital of the state of West Bengal. The city has some of the worst living conditions in the world because of overcrowding, poverty, and starvation. In 2001, the city's official name was changed from Calcutta to Kolkata, the Bengali name for the city.

The city covers about 40 square miles (104 square kilometers) on the east bank of the Hooghly, a branch of the Ganges River. Haora, the second largest city of the Kolkata metropolitan area, is on the west bank. The two cities are connected by two bridges, each with a main span of about 1,500 feet (460 meters). Railroads that serve Kolkata from the west have terminals in Haora. Kolkata also has a subway system.

The Maidan, a large park, occupies 2 square miles (5 square kilometers) in the center of Kolkata. The city's finest residential area lies east of the Maidan. Government buildings line the Esplanade, a wide street north of the Maidan.

The Victoria Memorial, an impressive building of white marble, houses a picture gallery and a historical museum. Other important structures include Raj Bhavan, the residence of the governor of West Bengal; and



Jehangir Gazdar, Woodfin Camp, Inc.



E. Stering from Carl Östman

Kolkata, the third largest city of India, has some of the most crowded living conditions in the world. Traffic jams occur frequently in downtown Kolkata, *left.* A severe housing shortage forces most of the city's people to live in slum areas, *right,* called *bustees.*

the Ochterlony Monument, a granite column 152 feet (46 meters) high. Kolkata has a university, founded in 1857, and several colleges. The Indian Museum, built in 1875, features collections of cultural materials.

People. Most of Kolkata's people speak one of three languages—Bengali, Hindi, or Urdu. About two-thirds of the city's adults cannot read or write. Hinduism is the principal religion, but Muslims make up about 15 percent of the population. Other religious groups include Buddhists, Christians, Jains, and Jews.

Wealthy Kolkatans live near the center of the city in pleasant neighborhoods with wide streets and modern houses. But the majority of the people live in slum areas called *bustees.* Most of the slum dwellings are made of scraps of metal or wood. Thousands of people sleep in the streets because they have no shelter. Many bustee dwellings have no electricity or running water, and some have no sewage disposal. These conditions, plus constant and widespread undernourishment, lead to frequent outbreaks of cholera and other diseases. Since the 1960's, the government has worked to improve living conditions in the bustees. It installed electricity, running water, and sewage facilities in many bustees.

Economy. Kolkata is the world center of jute production. More than 200,000 people work in mills that process this fiber. Other Kolkata products include electric equipment, metal goods, paint, and shoes.

Kolkata has one of the busiest harbors in the world. Wharves line both banks of the Hooghly River for about 20 miles (32 kilometers). The city is the shipping outlet for the coal and iron mines in northeastern India.

History. The East India Company, an English trading firm, founded the city as Calcutta in 1690. The settlement grew rapidly in size and importance, and many neighboring villages became part of it.

Calcutta became the capital of India in 1773. By 1900, Calcutta ranked second only to London as the largest city in the British Empire. In 1912, India's capital was moved to Delhi, which has a more central location.

In 1946, a riot between Hindus and Muslims over the proposed division of India into two nations left 4,000 people dead on the city's streets (see **India** [Independence and partition]). When India gained independence in 1947, Calcutta became the capital of the new state of West Bengal. Outbreaks of political and religious violence continued to occur frequently in the city. In 2001, its name was changed to Kolkata. Robert LaPorte, Jr.

See also **Bengal; Black Hole of Calcutta.**

Kollwitz, *KAWL vihts,* **Käthe,** *KEH tuh* (1867-1945), was a German printmaker and sculptor who became



The End (1898), an etching and aquatint; National Gallery of Art, Washington, D.C.

The Weavers by Käthe Kollwitz was the artist's first important series of prints. The series portrayed the tragic results of a strike by impoverished German weavers against factory owners in 1840. This final print in the series shows dead weavers being returned to their homes after the violent end of the strike.

known for her social protest themes. Kollwitz lived in the slums of Berlin, and she championed the cause of the poor in her art. She became especially noted for powerful woodcuts that feature roughly cut black and white shapes.

Kollwitz first gained recognition for two series of etchings, *The Weavers* (1893-1898) and *The Peasant War* (1902-1908). They depict historical events in which the poor fought their oppressors. Kollwitz's *War* (1923), a series of seven wood-block prints, expressed a woman's reaction against the violence and destruction of war. The prints were inspired by her son's death in World War I (1914-1918). Her most famous sculptures are a large war memorial called *The Mother* and *The Father* (1931-1932). The sculptures symbolize the grief of families of dead soldiers. Käthe Schmidt Kollwitz was born in Königsberg, Germany (now Kaliningrad, Russia).

Elizabeth Broun

Köln. See Cologne.

Komodo dragon, *kuh MOH doh,* is the largest living lizard. It grows to more than 10 feet (3 meters) long and can weigh as much as 365 pounds (165 kilograms). This giant lizard inhabits the tropical island of Komodo and a few other islands of Indonesia.

Komodo dragons have scaly bodies with long necks, strong claws, and sharp, sawlike teeth. They frequently eat meat that they scavenge. Their forked tongues have an organ of smell that helps them detect rotting animals several miles or kilometers away. Dragons are also able predators. They use their speed and strength to overpower deer, wild pigs, and even water buffaloes. Their saliva contains bacteria that can kill wounded prey in a few days. Dragons have killed a small number of people.

The female komodo dragon usually lays 15 to 30 eggs in a nest. Her eggs hatch in eight to nine months, and the young may take five years to mature. Dragons can live for 50 years.



Bruce Coleman Inc.

Komodo dragons are Indonesian lizards. They resemble legendary dragons and may grow to be over 10 feet (3 meters) long.

Komodo dragons have become endangered because people destroyed their habitat or overhunted their prey. People also trapped dragons to sell them as pets or killed them for their body parts. Indonesia now protects dragons from poachers, and biologists are trying to save their habitat. Also, many zoos have established successful dragon breeding programs. Raymond B. Huey

Scientific classification. The Komodo dragon belongs to the monitor family, Varanidae. It is *Varanus komodoensis.*

See also **Monitor; National park** (picture: Wildlife preservation).

Komondor, *KOH mahn dawr,* is a breed of dog that was raised for centuries to guard livestock on the Hungarian plains. This large white dog is thought to have been brought to Hungary from central Asia by the Magyars in the 800's. Adult male komondors measure about 30 inches (76 centimeters) tall at the shoulder and weigh about 150 pounds (68 kilograms). Adult females stand about 28 inches (71 centimeters) tall and weigh about 100 pounds (45 kilograms). The dog is very agile for its size. A full-grown komondor is covered with a heavy coat that falls toward the ground in cords. This unusual coat gives protection from harsh weather.



© Tara Darling, AKC Stock Images

The komondor

Komondors make excellent guard dogs, and many are kept as household pets. They have been known to protect children as well as other pets in the family,

Critically reviewed by the Komondor Club of America

Kon-Tiki. See **Heyerdahl, Thor.**

Kongo, *KAHNG goh,* was an African kingdom that lasted from the 1400's to the early 1700's. It included parts of what are now Angola and Congo (Kinshasa) and, probably, a small part of Congo (Brazzaville). The Kongo had a well-organized government. A hereditary chief ruled each village. Each *district* (group of villages) was ruled by a chief chosen by the king or the governor of the province in which the district was located. By 1500, the Kongo was divided into six provinces, each ruled by a governor. The king, called the *Mani-Kongo,* had political and religious power. He had no army, so he needed a strong personality to keep the kingdom together. Mbanza, near what is now Damba, Angola, was the capital.

Portuguese explorers reached the Kongo in 1482.

They converted some Kongolese, including King Nzinga Nkuwu, to Christianity. At first, relations between the two groups were good. But beginning in the early 1500's, the Portuguese enslaved many Kongolese and made them work in Portuguese colonies. King Nzinga Mbemba (also called Affonso I) asked King John III of Portugal to stop the slave traders, but John did nothing. By the early 1600's, the slave trade had weakened the Kongo, and the kingdom was breaking apart. Kongolese chiefs, encouraged by Portuguese traders, rebelled. Some provinces declared their independence.

Portugal invaded the Kongo in 1665. The invaders defeated the king's forces and killed him and many members of the nobility. By 1710, the kingdom had broken up into several small provinces. Leo Spitzer

See also **Nzinga Nkuwu**.

Konigsburg, Elaine (1930-), is an American children's author and illustrator. She won two Newbery Medals, in 1968 for *From the Mixed-Up Files of Mrs. Basil E. Frankweiler* and in 1997 for *The View from Saturday.* In 2001, she was awarded the Regina Medal by the Catholic Library Association. Her other books include *Jennifer, Hecate, Macbeth, William McKinley, and Me, Elizabeth* (1968), *A Proud Taste for Scarlet and Miniver* (1973), *Throwing Shadows* (1980), and *Silent to the Bone* (2000). She illustrates her books. Konigsburg was born on Feb. 10, 1930, in New York City. Virginia L. Wolf

Konoye, *koh noh yeh,* **Prince Fumimaro** (1891-1945), was premier of Japan from 1937 to 1939 and from 1940 to 1941. Konoye was a leading moderate, but his willingness to compromise with the militarist extremists helped them accomplish their war aims. Shortly after he first became premier in 1937, Japan attacked China. Konoye sought a compromise with the United States in 1940. But he gave way in 1941 to General Hideki Tojo's Cabinet, which led Japan into World War II.

Konoye was born into one of Japan's most aristocratic families on Oct. 12, 1891, in Tokyo. He became president of the House of Peers in 1933. Konoye helped bring about Japan's surrender in World War II in 1945, but he was named a war-criminal suspect and took poison.

Kookaburra, *KUK uh BUR uh,* is the name of a group of woodland kingfishers that live in Australia and New Guinea. A kookaburra's call sounds like a loud laugh, and it is sometimes called the *laughing jackass.* Kookaburras are about 17 inches (43 centimeters) long. They have large heads, long bills, and brown, black, or white feathers. Kookaburras eat caterpillars, fish, frogs, insects, small mammals, snakes, worms, and even small birds. They nest in tree holes, where they lay two or three white eggs. The male birds fiercely defend their homes against would-be predators. David M. Niles

Scientific classification. The kookaburras belong to the kingfisher family, Alcedinidae. The scientific name for the most familiar species, the laughing kookaburra, is *Dacelo novaeguineae.*

See also **Bird** (picture: Birds of Australia and the Pacific Islands); **Kingfisher**.

Koontz, Dean (1945-), is one of the most popular and productive American authors of suspense fiction. His best thrillers combine elements of horror, suspense, and romance, and sometimes science fiction. There is a strong presence of evil in his works. His characters often must overcome great difficulties to survive.

Dean Ray Koontz was born on July 9, 1945, in Everett, Pennsylvania. He worked as a high school English teacher from 1967 to 1969, when he became a full-time author. His earliest novels were science-fiction stories, beginning with *Star Quest* (1968). His first suspense novel was *Chase* (1972). Koontz earned widespread attention with *Whispers* (1980), a story about a psychopath stalking a woman. *Strangers* (1986) mixes mystery and the supernatural. *Intensity* (1995) portrays the battle between a psychology student and a vicious killer.

Koontz's other novels include *Watchers* (1987), *Lightning* (1988), *The Bad Place* (1990), *Cold Fire* (1991), *Hideaway* (1992), *Dragon Tears* (1993), *Mr. Murder* (1993), *Sole Survivor* (1997), *Fear Nothing* (1998) and its sequel *Seize the Night* (1999), *False Memory* (2000), *From the Corner of His Eye* (2001), and *One Door Away from Heaven* (2001). His shorter fiction is collected in *Strange Highways* (1995). Koontz also has written under a number of other names, including Deanna Dwyer, Brian Coffey, Leigh Nichols, and Owen West.

Kootenay Indians. See **Kutenai Indians**.

Koppel, Ted (1940-), an English-born newsman, ranks among the most respected journalists in American television. Since 1980, Koppel has been the host of the news program "Nightline." On the nightly program, Koppel explores the major news stories of the day, often interviewing the most important people involved in the story. Koppel has been praised for his intelligent, even-handed, and informed interviewing style.

Edward James Koppel was born on Feb. 8, 1940, in Lancashire, England. He moved to the United States with his family in 1953 and became a U.S. citizen in 1963. Koppel joined the ABC television network in 1963.

In 1979, a group of Iranian revolutionaries invaded the U.S. Embassy in Tehran and took several Americans hostage. Koppel hosted a number of ABC news specials called "The Iran Crisis: America Held Hostage" that updated and analyzed the situation. The specials attracted large audiences and developed into "Nightline."

Koran. See **Quran**.



WORLD BOOK illustration by Harry McNaught

The kookaburra, or *laughing jackass,* has a large head; a long, heavy bill; and brown, black, or white feathers. Kookaburras live in the woodlands of Australia and New Guinea.



© Thomas Haskell, Corbis/Sygma

North Korea's capital, Pyongyang, has broad boulevards and many office buildings. It is North Korea's largest city and its cultural, economic, and industrial center.



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South Korea's capital, Seoul, lies in a small valley almost completely surrounded by mountains. It is South Korea's largest city and also one of the largest cities in the world in population.

Korea

Korea is a land in eastern Asia that consists of two states. One is the Republic of Korea—usually called South Korea. Seoul is its capital and largest city. The other is the Democratic People's Republic of Korea—commonly called North Korea. Pyongyang is its capital and largest city. North Korea has a Communist government, and its Communist Party holds political power. In non-Communist South Korea, the people elect their national political leaders.

North and South Korea lie on the Korean Peninsula, which extends south from northeastern China. North Korea covers the northern half of the peninsula, and South Korea occupies the southern half. North Korea is slightly larger in area than South Korea, but the South has about twice as many people as the North.

Plains stretch along the western, northeastern, and southern coasts of Korea. Mountains cover most of the rest of the peninsula. The majority of the Korean people live on the coastal plains or in river valleys.

Until the 1900's, Korea's economy was based almost entirely on agriculture. During the early 1900's, Korea underwent vast changes. Today, industry is far more important than agriculture in both North and South Korea.

Scientists have evidence that people lived in what is now Korea at least 30,000 years ago. Various Korean and foreign states ruled the Korean peninsula from ancient times to the 1900's. Korea was a colony of Japan from 1910 until World War II ended in 1945. After Japan's defeat in the war, Korea was divided. The separate governments of South and North Korea were formed in 1948.

The contributor of this article, Bonnie Bongwan Cho Oh, is Distinguished Research Professor of Korean Studies at Georgetown University and coeditor of the book East Meets West.

Communists had gained control of the North in 1945. In 1950, North Korean troops invaded South Korea. This action started the Korean War, which was part of the Cold War struggle between Communist and non-Communist nations. The Korean War ended in 1953. But neither side won a complete victory, and a permanent peace treaty has never been signed. See **Korean War.**

Since the war, small-scale fighting between South and North Korea has occasionally taken place. In the 1970's and 1980's, representatives of the two states held discussions from time to time about reunifying Korea. In 1991, South and North Korea signed an agreement not to use force against each other. Each state also formally recognized the other's regime. In 2000, the leaders of North and South Korea met for the first time since Korea was divided.

Government

South Korea. According to its Constitution, South Korea is a republic. The Constitution calls for the election of national government leaders by the people. It guarantees such rights as freedom of the press and religion. But the government can limit freedom. See *South Korea* in the *History* section of this article.

National government. The president of South Korea is both the head of state and the head of the government. The people elect the president to a five-year term. The president cannot be reelected. The president appoints a prime minister, who carries out the operations of the government. In addition, the president appoints 15 to 30 State Council members, who head government departments. South Korea's legislature, called the National Assembly, has 299 members. Voters elect the members of the National Assembly to four-year terms. South Koreans 20 years old or older may vote.




Symbols of North Korea. The North's flag and coat of arms have a red star that represents Communism. Rice and an electric power plant on the coat of arms stand for the importance of agriculture and industry to the North.




Symbols of South Korea. The South's flag and coat of arms feature a red and blue circle. This ancient Asian symbol represents the balance in the universe between opposites—such as night and day, and life and death.

Local government. South Korea has nine provinces. The country also has five cities—Inchon, Kwangju, Pusan, Taegu, and Taejon—that have the same status as provinces. Seoul has a special status similar to that of a province. Each province is divided into two kinds of government units—cities and counties. For many years, the president of South Korea appointed most local leaders. In 1995, for the first time since the 1960's, elections were held for provincial governors, city mayors, and other city and county officials.

Politics. Since the 1980's, political parties in South Korea have frequently changed and reorganized. The Grand National Party holds more National Assembly seats than any other party. Its chief rival, the Millennium Democratic Party, holds almost as many seats. The United Liberal Democratic Party holds only a few seats.

Courts. The Supreme Court, which is South Korea's highest court, consists of a chief justice and up to 13 other justices. The president appoints the chief justice—and the other justices, who are recommended by the chief justice—with the approval of the National Assembly. All of the justices serve six-year terms. South Korea has a Constitution Court that rules on such questions as the constitutionality of laws. Other courts include appeals courts, district courts, and a family court.



WORLD BOOK map

North Korea and South Korea lie on a peninsula that extends south from northeastern China. The Sea of Japan, known to Koreans as the East Sea, lies to the east and the Yellow Sea to the west. The Korea Strait separates South Korea from Japan.

Facts in brief

North Korea

Capital: Pyongyang.
Official language: Korean.
Official name: Choson-minjujuui-inmin-konghwaguk (Democratic People's Republic of Korea).
Area: 46,540 mi^2 (120,538 km^2), including islands and excluding the 487-mi^2 (1,262-km^2) demilitarized zone. *Greatest distances*—north-south, 370 mi (595 km); east-west, 320 mi (515 km). *Coastline*—665 mi (1,070 km).
Elevation: *Highest*—Paektu-san (Paektu Mountain), 9,003 ft (2,744 m) above sea level. *Lowest*—sea level.
Population: *Estimated 2002 population*—24,585,000; density, 528 per mi^2 (204 per km^2); distribution, 59 percent urban, 41 percent rural. *1993 census*—21,213,378.
Chief products: *Agriculture*—barley, corn, millet, potatoes, rice, wheat. *Manufacturing*—cement, chemicals, iron and steel, machinery, metals, processed foods, textiles. *Mining*—coal, iron ore, magnesium, phosphates, salt, tungsten. *Fishing*—pollock, sardines, shellfish, squid.
Money: *Basic unit*—won. One hundred zeuns equal one won.

South Korea

Capital: Seoul.
Official language: Korean.
Official name: Taehan-min'guk (Republic of Korea).
Area: 38,328 mi^2 (99,268 km^2), including islands and excluding the 487-mi^2 (1,262-km^2) demilitarized zone. *Greatest distances*—north-south, 300 mi (480 km); east-west, 185 mi (298 km). *Coastline*—819 mi (1,318 km).
Elevation: *Highest*—Halla-san (Halla Mountain), 6,398 ft (1,950 m) above sea level. *Lowest*—sea level.
Population: *Estimated 2002 population*—47,521,000; density, 1,240 per mi^2 (479 per km^2); distribution, 79 percent urban, 21 percent rural. *1995 census*—44,608,726.
Chief products: *Agriculture*—apples, barley, Chinese cabbage, melons, onions, potatoes, rice, soybeans, sweet potatoes. *Manufacturing*—automobiles, chemicals, clothing, computer equipment, electric appliances, iron and steel, machinery, plywood, processed foods, rubber tires, ships, shoes, television sets, textiles. *Mining*—coal. *Fishing*—filefish, oysters, pollock.
Money: *Basic unit*—won. One hundred chon equal one won.

Armed forces. The armies of both South and North Korea are among the world's largest. The South Korean army has about 520,000 members. South Korea also has a navy of about 60,000 and an air force of about 50,000. The government may draft men 17 to 33 years of age for 26 to 30 months of service. Women join the armed forces on a volunteer basis. About $3\frac{1}{2}$ million people are members of a civilian defense corps.

North Korea. The North Korean Constitution gives political power to the people. But the country's Communist Party, called the Korean Workers' Party, holds the real political power. The Constitution guarantees such rights as freedom of the press, religion, and speech. But the North Korean people have almost no real freedom. The Communists maintain strict control over all aspects of life to ensure their dominance of the country.

National government. The chairman of the National Defense Commission is considered the head of state and North Korea's most powerful official. The Central People's Committee is the most powerful policymaking body. It varies in size but usually has about 20 members. These officials, who are all high-ranking members of the Communist Party, hold office on the committee because of their positions in the party.

North Korea's legislature, called the Supreme People's Assembly, elects the chairman of the National Defense Commission and the members of the Central People's Committee. The Supreme People's Assembly has 687 members, elected by the people to five-year terms. According to the Constitution, it is North Korea's highest government authority. But the legislature has little power. It meets only one or two weeks a year and functions according to the wishes of the Communist Party.

A body called the State Administrative Council is responsible for carrying out government policies. It is headed by a premier, who is appointed by the Supreme People's Assembly. Its other members consist of the heads of government ministries and commissions, who are appointed by the Central People's Committee.

Local government. North Korea has nine provinces. Four *Special Cities*—Kaesong, Najin Sonbong, Nampo, and Pyongyang—have the status of provinces. Smaller political units include cities, counties, towns, villages, and workers' settlements. The people of each unit elect a people's assembly that directs the local government.

Politics. The Korean Workers' Party is the ruling party of North Korea. Fewer than 15 percent of the people belong to the party. Even so, the party makes the country's laws, chooses all candidates for elections, and approves all people appointed to public office. Officially, North Korea has a number of other political parties. However, these parties may not oppose the policies of the Workers' Party.

Courts. The Central Court is North Korea's highest court. Its justices are chosen by the Communist Party and elected by the Supreme People's Assembly. Other courts in North Korea include provincial courts and people's courts.

Armed forces of North Korea consist of a 1 million-member army, an air force of about 85,000 members, and a navy of about 45,000. About 600,000 people serve in the army reserve and about 65,000 in the naval reserve. About 4 million people are members of local militia forces. Militia members serve part-time.

The North Korean government drafts men 20 to 25 years old for military service. Members of the army must serve 5 to 8 years. The air force requires 3 to 4 years of service, and the navy requires 5 to 10 years. Women join the armed forces on a volunteer basis.

People

Ancestry. Scientists have evidence that people had settled in what is now Korea by at least 30,000 years ago. They came from regions to the north and northwest. It is not known when the ancestors of today's Korean people arrived in the peninsula. They may have come from the north about 5,000 years ago.

Population. Six South Korean cities have populations of over 1 million. Seoul, the capital, is also the largest South Korean city. It has more than 10 million people. Pusan is the second largest city in South Korea. North Korea's largest city is Pyongyang, the capital. Koreans make up almost the entire population of Korea. People of Chinese descent are Korea's largest minority group.

Korea map index

Cities of South Korea

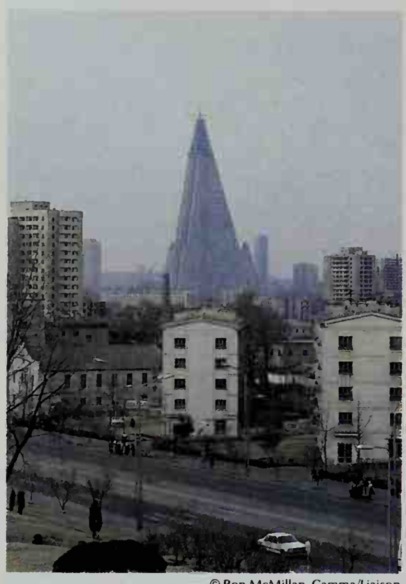
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Ansong	27,715	G	4
Anyang	481,291	G	4
Bucheon	667,993	G	3
Changhang	26,171	H	3
Changhung	27,230	J	4
Changsong	26,246	I	3
Changwon	323,223	I	5
Chechon	99,874	G	5
Cheju	232,643	K	3
Chinhae	120,212	I	5
Chinju	255,695	I	4
Chochiwon	29,194	H	4
Chomchon	47,802	H	5
Chonan	211,363	H	4
Chongdo	25,605	I	5
Chongju	477,783	H	4
Chongju*	86,906	I	4
Chongup	54,887	I	3
Chonju	517,059	I	4
Chumunjin	34,184	F	5
Chunchon	174,224	F	4
Chungju	128,425	G	5
Chungmu	92,177	J	5
Chungpyong	25,415	H	4
Haenam	26,783	J	3
Hallim	24,107	K	3
Hamyang	26,783	I	4
Hongsong	26,988	H	3
Inchon	1,817,919	G	3
Iri	203,382	H	4
Kangnung	152,678	F	5
Kimchon	81,346	H	5
Kimhae	106,206	I	5
Kimje	55,138	I	3
Kochang	41,656	I	3
Kochang	23,725	I	4
Kongju	65,190	H	4
Kosong	27,116	J	5
Kumi	206,121	H	5
Kumsan	28,970	H	4
Kunsan	218,205	I	3
Kuryongpo	31,758	H	6
Kwachon*	72,353	G	4
Kwangchon	24,629	H	3
Kwangju	1,139,003	I	4
Kwang-myong*	328,593	J	5
Kwangyang	26,375	J	4
Kyongju	141,896	I	6
Kyongsan	60,504	I	5
Masan	493,731	I	5
Miryang	53,067	I	5
Mokpo	243,064	J	3
Mukho	55,161	G	5
Naju	55,306	J	3
Namwon	63,157	I	4
Nonsan	30,833	H	4
Okchon	26,134	H	4
Onyang	66,346	H	4
Osan	59,482	G	4
Pohang	317,768	H	6
Polgyo	38,841	J	4
Puan	27,184	I	3
Pukpyong	37,129	G	5
Pusan	3,798,113	I	5
Puyo	31,198	H	4
Pyongtaek	79,152	G	4
Samchok	41,675	G	5
Samchonpo	62,831	J	4
Sangju	51,868	H	4
Seoul	10,612,577	G	4
Sintaein	20,090	I	4
Sogwi	88,287	K	3
Sokcho	73,805	F	5
Songjong	32,300	I	3
Songnam	540,754	G	4
Songtan	77,445	G	4
Sosan	55,943	H	3
Sunchon	167,214	J	4
Suwon	644,805	G	4
Taechon	56,918	H	3
Taegu	2,229,040	I	5
Taebaek	89,779	G	5
Taejon	1,049,578	H	4
Togye	42,660	G	5
Tongduchon	71,449	F	4
Uijongbu	212,352	F	4
Uisong	26,466	H	5
Ulsan	682,411	I	6
Waegwan	31,051	H	5
Wonju	162,415	G	5
Yechon	27,578	H	5
Yesan	35,722	H	3
Yongchon	48,888	H	5
Yongdong	26,590	H	4
Yongju	84,361	H	5
Yongsanpo	25,985	J	3
Yongwol	31,632	G	5
Yonmu	32,728	H	4
Yosu	173,169	J	4

Cities of North Korea

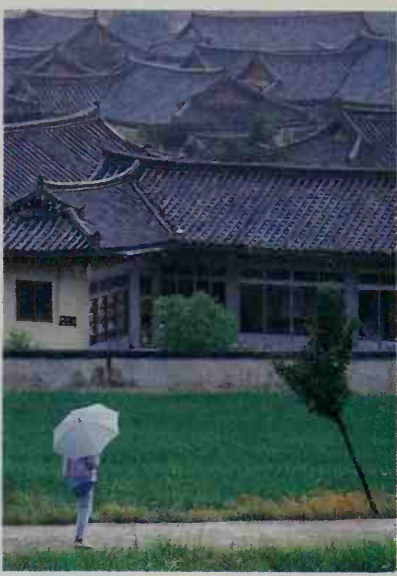
Anak	35,000	F	2
Anju	40,000	D	3
Aoji	90,000	A	6
Chaeryong	45,000	F	3
Chongjin	754,128	8	6
Chongju	50,000	D	2
Chongsong	50,000	A	6
Haeju	131,000	F	3
Hamhung	525,000	D	4
Hoeryong	45,000	A	6
Hongwon	45,000	D	5
Hwangju	31,000	E	3
Hyesan	65,000	B	5
Kaechon	52,000	D	3
Kaesong	345,642	F	3
Kanggye	90,000	C	3
Kangso	30,000	E	2
Kilchu	55,000	C	6
Kimchaek	281,000	E	4
Kowon	75,000	E	4
Kujang	30,000	D	3
Kumchon	30,000	F	3
Kusong	35,000	D	2
Kyongsong	45,000	8	6
Maengsan	30,000	D	3
Manpo	85,000	C	3
Mundok	30,000	E	3
Musan	60,000	B	5
Najin	70,000	A	6
Nampo	691,284	E	2
Ongjin	45,000	F	2
Onsong	75,000	A	6
Oro	35,000	D	4
Pakchon	34,000	D	3
Panmunjom		F	4
Pukchang	35,000	D	3
Pukchong	45,000	D	5
Pyongsan	40,000	F	3
Pyongyang	2,639,448	E	3
Sakchu	40,000	D	2
Sariwon	130,000	F	3
Sinanju	50,000	D	3
Sinpo	85,000	D	5
Sinuiju	500,000	D	2
Songnim	96,000	E	3
Sunchon	48,000	E	3
Taechon	50,000	D	2
Tanchon	60,000	D	5
Tokchon	35,000	D	3
Uiju	35,000	D	2
Unggi	35,000	A	6
Unsan	25,000	E	3
Wonsan	350,000	E	4
Yomju*	30,000	D	2
Yonan	35,000	F	3
Yongampo	35,000	D	2
Yongbyon*	30,000	D	3
Yonggang	30,000	E	2
Yonghung	46,000	D	4

*Does not appear on map; key shows general location.
Sources: South Korea—1990 census for largest cities, 1975 census for all other places. North Korea—1984 estimates from Korean National Unification Board for largest cities, 1971 estimates for all other places from William E. Henthorn.


Korea political map
National park (N.P.)
International boundary
Expressway
Road
Railroad
National capital
Provincial capital
Other city or town
WORLD BOOK map
1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
K
CHINA
RUSSIA
NORTH KOREA
SOUTH KOREA
JAPAN
Mingyuegou
Yanji
Hunchun
Onsong
Chongsong
Halong
Tumen
Hoeryong
Aoji
Unggi
Antu
Najin
Musan
Sajidong
Nanam
Chongjin
Kyongsong
Odaejin
North
Xinbin
Tonghua
Tiechang
Linjiang
Yalu
Pochon
Hyesan
Unhung
Myongchon
Huchang
Benxi
Anshan
Nanfen
Taizi
Hun
Jian
Manpo
Kanggye
Rangrim Res.
Changjin
Pujon
Pujon Res.
Kapsan
Pungsan
Kilchu
Hochon
Kimchaek
Kuandian
Chosan
Chonchon
Changjin Res.
Supung Reservoir
Fengcheng
Sakchu
Koinni
Changjin
Changhung
Tanchon
Xiuyan
Dayang
Dandong
Tongchang
Iwon
Pukchong
Uiju
Sinuiju
Pukchin
Huichon
Unsan
Taehung
Oro
Sinpo
Hongwon
Kusong
Taechon
Yongampo
Sonchon
Pakchon
Kujang
Tokchon
Hamhung
Hungnam
Zhuanghe
Chongju
Kaechon
Taedong
Maengsan
Ka I.
Sinmi I.
Sinanju
Anju
Pukchang
Yonghung
Mundok
Sunchon
Kowon
Sojoson Bay
Unsan
Sinchang
Tongjoson Bay
Korea Bay
Sunan
Sariwon
Yangdok
Munchon
Wonsan
Pyongyang
Samdung
Anbyon
Kangso
Sungho
Popyong
Tongchon
Yonggang
Songnim
Kosan
East Sea
(Sea of Japan)
Nampo
Hwangju
Koksan
Hoeyang
Kosong
Cho I.
Anak
Sariwon
Sepo
Imjin
Pukhan
Sinchon
Chaeryong
Ichon
Pyongsan
Pyonggang
Kansong
Changyon
Chorwon
Kumhwa
SORAKSAN N.P.
Sokcho
Kumchon
Paro Lake
Haeju
Yanggu
Inje
Yangyang
Kaesong
Panmunjom
38° North Latitude
Ongjin
Paengnyong I.
Yonan
Tongduchon
Chumunjin
Taechong I.
Munsan
Chunchon
ODAESAN N.P.
Kangnung
Uijongbu
Hongchon
Kanghwa
Kimpo
Kanghwa Bay
Seoul
Bucheon
Hoengsong
Pukpyong
Mukho
Samchok
Inchon
Songnam
CHIAKSAN N.P.
Ullung I.
Anyang
Yoju
Wonju
Pyongchang
Tokchok Is.
Suwon
Ichon
Yongwol
Togye
Osan
Chechon
Taebaek
Han
Songtan
Anseong
Chungju
Tanyang
Pyongtaek
SOBAEKSAN N.P.
Ulchin
Umsong
WORAKSAN N.P.
Punggi
Sosan
Onyang
Chonan
Chungpyong
Yongju
Pyonghae
TAEAN HAEAN N.P.
Yesan
Chongju
Yechon
Hongsong
Chochiwon
Kum
Chomchon
Andong
CHUWANGSAN N.P.
Yellow Sea
Kwangchon
Kongju
Sangju
Naktong
Yongdok
Taejon
Okchon
Uisong
Yongil Bay
Oeyon I.
Taechon
Nonsan
Puyo
Yongdong
Changhang
Kimchon
Kumi
Pohang
Yonmu
Kumsan
Yongchon
Kuryongpo
Kunsan
Iri
Samnye
Waegwan
Taegu
Kyongju
Kimje
TOGYUSAN N.P.
KYONGJU N.P.
Chonju
Kyongsan
Kampo
Puan
Sintaein
Kochang
Chongdo
Wi I.
Chongup
Taein
Hamyang
Changnyong
Miryang
Ulsan
Namwon
Namji
Samnangjin
Kochang
CHIRISAN N.P.
Changwon
Kimhae
Changsong
Somjin
Chinju
Masan
Songjong
Chinhae
Pusan
Kwangju
Kwangyang
Kosong
Yongsanpo
Naju
Sunchon
Samchonpo
Chungmu
Chaun I.
Polgyo
Koje I.
Pigum I.
Mokpo
Posong
Yochon
Namhae I.
Western Channel
Hong I.
Kangjin
Yosu
Tolsan I.
HALLYO HAESANG N.P.
TAOHOAE HAESANG N.P.
Changhung
Kumo I.
Korea Strait
Haenam
Tsushima
Chindo
Hatae I.
Chin I.
Wando
Cho I.
Hagi
Yamaguchi
Sohuksan I.
Pogilto I.
TADOHAE HAESANG N.P.
Shimonoseki
Ube
Kitakyushu
Suo Sea
Eastern Channel
Iki
Fukuoka
Cheju Strait
Cheju
Hallim
HALLASAN N.P.
Cheju I.
Hirado I.
Kurume
Beppu
Saga
Sogwi
124° East Longitude
124°
126°
128°
130°
132°
42°
40°
38°
36°
34°
0
100
200
300
400 Miles
0
100
200
300
400
500
600 Kilometers




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Korea's housing styles include apartment buildings and traditional-style houses. The majority of city dwellers live in apartments. Many apartment buildings rise in Pyongyang, North Korea's capital, *far left.* A traditional-style house in a South Korean suburb, *left,* has a tile roof.

Language. Korean is the official language of South and North Korea. Scholars classify it in the same language family as Japanese, but Korean is unlike any other language. About half of all Korean words come from Chinese. Korean has about six major *dialects* (local forms). Most Koreans understand all the dialects.

The Korean alphabet, called *han'gul,* has 24 letters. It was developed by scholars at the court of King Sejong in the 1440's. South Koreans use some Chinese symbols in addition to han'gul in their writing. North Koreans use only han'gul.

Way of life

Before the 1900's, Korea was an agricultural society built on strong family ties. Almost all the people lived in small villages and worked on farms. In many families, several generations lived together. The oldest male served as head of the family, and all people were expected to obey their elders without question.

This way of life changed quickly after Japan seized control of Korea in 1910. The Japanese brought industry to Korean cities and took much farmland away from the farmers. They forcibly moved many young Koreans to the cities to work. The old way of life changed even more after Korea's division in the 1940's. In the North, the Communists took steps to make the country an industrial society. Following Communist ideas, they also tried to weaken the importance of the family. In the South, economic and political ties with Western nations brought South Koreans under the influence of Western customs.

City life. Changes in both North and South Korea since the 1950's have led to a rapid increase in the proportion of city dwellers. South Koreans are attracted to cities because of the opportunities there. Factories and businesses provide jobs. The cities have colleges and universities, better health-care facilities, and a variety of entertainment.

Many high-rise apartment buildings and modern houses have been built in Seoul and other large South Korean cities. But it has been difficult to meet the rapidly rising need for housing, and many people have been forced to live in distant suburbs. The rise in population has also strained such public services as water, sewerage, and transportation. The crime rate in the cities has increased sharply. In addition, as South Koreans become more prosperous, the number of automobiles continues to increase. Traffic jams are frequent, and major cities suffer from a severe pollution problem.

Most city dwellers in North Korea work in factories. The majority of them live in one- or two-room apartments built after Korea's division. Few city people besides high-ranking government officials have houses. Pyongyang is North Korea's most modern city, with skyscrapers, broad boulevards, cultural centers, and sports stadiums. However, it has few restaurants or places of entertainment. Few North Koreans own cars.

Rural life. Many South Koreans, including those in rural areas, live in houses made of bricks or concrete blocks, with roofs of cement tiles and slate. Many houses are two or three stories, though such houses are less common in rural areas than in the cities. Most houses have *ondol*—floors of thick stone slabs covered by oiled papers or mats. Traditionally, channels under the floors carried hot air from the kitchen or an indoor fireplace to heat the rooms. In many homes today, pipes carry heated water under the floors to provide heat. In the cities, many ondol are heated by electric coils. Almost all rural homes also have electric power. The use of Western-style beds, tables, and sofas is spreading.

The South Korean government maintains a campaign to improve roads, irrigation, and living conditions in rural areas. Most farmers have modern farm machinery.

After the division of Korea, the Communists in the North built many apartments on *collective farms* in rural areas. All North Korean farmers work on such farms, which are operated cooperatively by a large group of farmers. Most farming is done with modern machinery, and virtually all homes have electric power.

Clothing. Most people in both North and South Korea wear Western-style clothing. However, many people wear traditional clothing for holidays and special occasions. Traditional clothing for women consists of a long, full skirt and a tight-fitting jacket. Men wear loose-fitting trousers, shirts, and jackets.

Food and drink. Rice is the basic food of most Koreans. Other common foods include barley; fish; such fruits as apples, peaches, pears, and melons; and such vegetables as beans, potatoes, and sweet potatoes. One of the most popular dishes other than rice is *kimchi,* a highly spiced mixture of Chinese cabbage, white radishes, and several other vegetables. Consumption of meat and dairy products is small but increasing.

Tea is a traditional drink in Korea, but many Koreans drink coffee. Adults drink *soju,* a distilled alcoholic beverage usually made from grain, as well as *ch'ongju,* known in the West as *sake* or rice wine. In the rural areas, a home-brewed drink known as *makkolli,* made from rice, has also been popular. Young adults frequently drink beer.

Recreation. South Koreans enjoy most sports common in the West, including baseball, boxing, golf, soccer, table tennis, tennis, and wrestling. They also enjoy such martial arts as *judo* and *tae kwon do.* Television and radio broadcasts of local and national athletic meets attract a wide audience. Each year, South Korea holds a National Sports Festival. In North Korea, the government operates gymnasiums and promotes participation in organized sports programs.

South Korean cities and towns have many theaters for motion pictures, plays, and concerts. Korean and foreign movies are popular. Orchestras perform classical and contemporary Western music. Television networks regularly show dramas and comedies. In North Korea, most forms of entertainment are supported and controlled by the state. The cities have theaters for drama, opera, and motion pictures. Drama groups travel throughout the country to perform for workers in rural areas. Both North and South Koreans enjoy reading novels, short stories, and poems.

Religion. The government of South Korea permits complete freedom of religion. The North Korean Constitution guarantees religious freedom. But the government discourages religion because it conflicts with the teachings of Communism.



Korea National Tourist Office

Buddhism has had a strong influence on Korean culture. Today, many South Koreans, such as these monks, follow Buddhism. North Korea discourages the practice of religion.

Confucianism, which is more a philosophy than a religion, traditionally has been the most widely followed set of beliefs in Korea. It stresses the duties that people have toward one another. Today, most South Koreans—no matter what religion they follow—believe in at least some of the teachings of Confucianism. For example, most families in the South follow the Confucian practice of honoring their ancestors in special ceremonies. About 20 percent of South Koreans are Buddhists, about 18 percent are Protestants, and about 3 percent are Roman Catholics. See **Buddhism; Confucianism.**



Ministry of Culture and Information, Seoul, South Korea

Traditional Korean music features several types of stringed instruments as well as drums, flutes, and gongs. These South Korean musicians, members of the National Classical Music Institute, are playing copies of instruments used hundreds of years ago.

Education. Since the late 1940's, South and North Korea have made special efforts to improve their educational systems. As a result, the number of Koreans who can read and write increased from less than half the adult population in the mid-1940's to almost all of the adults today. For the literacy rates of North and South Korea, see **Literacy** (table: Literacy rates).

South Korea. South Korean law requires that all children complete elementary school, which in that country goes through grade 6. Public elementary schools in South Korea are free.

After completing elementary school, a South Korean student may go on to attend middle school (grades 7 through 9) and then high school (grades 10 through 12). Parents must pay tuition for public as well as private secondary schools. Nevertheless, the vast majority of children aged 12 to 17 attend secondary school. Technical training, which prepares students for industrial jobs, begins in the middle schools and continues through all higher levels of education.

Qualified high school graduates may enter one of South Korea's more than 250 college-level schools. These schools provide training in a wide variety of subjects. More than 1 million students attend universities, colleges, and junior colleges in South Korea.

North Korea requires children to attend school for 11 years, including a year of preschool. The state pays all educational expenses. Students must work for the state during part of the summer.

In North Korea, elementary school consists of grades 1 through 4, and senior middle school has grades 5 through 10. Students must have Communist Party approval to continue their education after senior middle school. Those who continue attend a two-year high school, a two-year general vocational school, or a three- or four-year technical school that provides training for engineering and scientific jobs. Students who finish high school or technical school may go to college immediately. Vocational school graduates must complete a year of special study before they enter college.

North Korea has one university—Kim Il Sung University in Pyongyang—and more than 200 specialized colleges. Each college offers training in one area, such as agriculture, engineering, or medicine. The government provides night schools for adults, training schools in factories, and courses for workers to take by mail.

The arts. Early Korean art developed under the influence of both Chinese art and the teachings of Buddhism and Confucianism. Popular themes included love of nature, respect for learning, and loyalty to the king. The most widely practiced art forms included music, poetry, pottery, sculpture, and painting.

In North Korea today, the government controls the work of artists. The government prohibits works of art that conflict with Communist principles. It encourages artists to show support in their work for the policies of the Communist Party.

South Korean artists are free from government control of their work. In South Korea, artists work with traditional themes and with various forms of Western art. Western art has influenced all forms of South Korean art. This influence appears especially in the rapid development of Western forms of drama and of motion pictures since 1945.



WORLD BOOK map

Physical features

Feature		
Chaeryong River	D	1
Changjin River	B	3
Cheju (island)	G	2
Cheju Strait	G	2
Chii Mountain	F	3
East Sea (Sea of Japan)	C	4
Halla Mountain	G	2
Han River	E	3
Hong (island)	F	1
Imjin River	D	2
Kanghwa Bay	D	2
Koje (island)	F	3
Korea Bay	C	1
Korea Strait	G	4
Kum River	E	3
Kyebang Mountain	D	3
Mount Kwanmo	A	4
Myohyang Mountain	C	2
Naktong River	E	3
Oeyon (island)	E	2
Paektu Mountain	A	3
Paengnyong (island)	D	1
Puksubaek Mountain	B	3
Sinmi (island)	C	1
Sohuksan (island)	G	1
Sojoson Bay	C	1
Somjin River	F	2
Supung Reservoir	B	1
Taedong River	C	2
Tokchok (island)	E	1
Tongjoson Bay	C	3
Tumen River	A	4
Ullung (island)	D	4
Yalu River	B	1
Yellow Sea	E	1
Yonghung Bay	C	3
Yongil Bay	E	4

The land

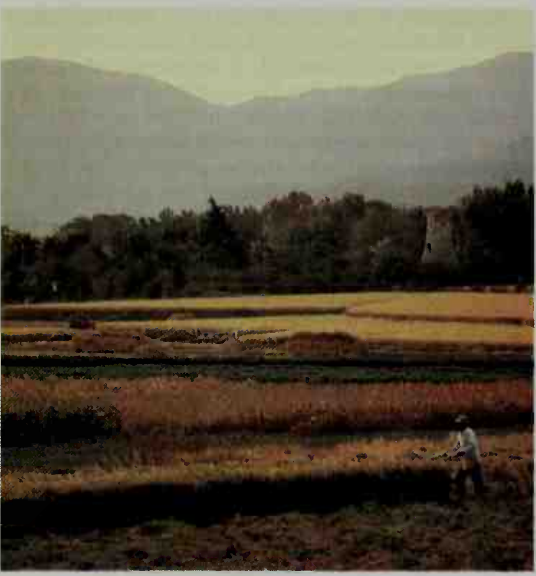
The Korean Peninsula extends southward from northeastern China. More than 3,000 islands, which are part of Korea, lie off the southern and western coasts of the peninsula. The peninsula and the islands cover a total area of 85,353 square miles (221,063 square kilometers). The East Sea, also called the Sea of Japan, lies east of the peninsula. It separates Korea from Japan. The Yellow Sea lies west of Korea, and the Korea Strait lies to the south.

Korea has six main land regions: (1) the Northwestern Plain, (2) the Northern Mountains, (3) the Eastern Coastal Lowland, (4) the Central Mountains, (5) the Southern Plain, and (6) the Southwestern Plain.

The Northwestern Plain stretches along the entire western coast of North Korea. Rolling hills divide the region into a series of broad, level plains. The Northwestern Plain has most of North Korea's farmland and its major industrial area, including Pyongyang. About half the North Korean people live in the region.

The Northern Mountains region, east of the Northwestern Plain, covers almost all of central North Korea. Forested mountains make up most of the region. These mountains are an important source of valuable minerals and forest products. Korea's highest mountain, Paektusan (Paektu Mountain), is in the Northern Mountains. It rises 9,003 feet (2,744 meters) on the border between North Korea and China. North Korea's longest river, the Yalu, flows westward from this mountain along the border for 490 miles (789 kilometers) to the Yellow Sea. The Tumen River forms the border eastward from Paektusan to the East Sea (Sea of Japan). Almost a fourth of North Korea's people live in the Northern Mountains region.

The Eastern Coastal Lowland covers almost all of North Korea's east coast. This strip of land between the Northern Mountains region and the East Sea consists of a series of narrow plains separated by low hills. The plains of the Eastern Coastal Lowland provide much farmland, and the sea makes fishing important in the region. The Eastern Coastal Lowland also has some industrial areas. More than a fourth of North Korea's people live in this small but heavily populated region.



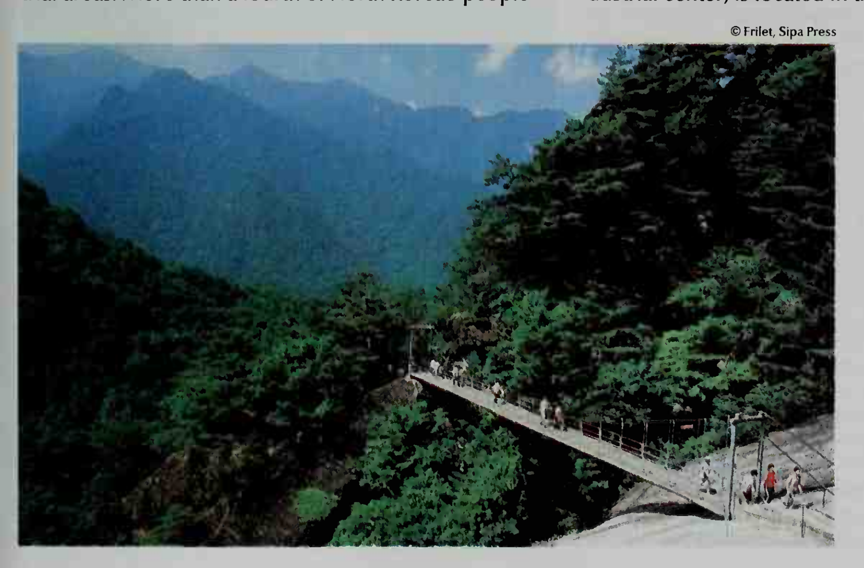
Korean National Tourist Office

The Southwestern Plain covers almost the entire western coast of South Korea. Like many of Korea's coastal areas, it consists of rolling hills and plains that make fertile farmland.

The Central Mountains region extends throughout most of central and eastern South Korea and into a small part of southern North Korea. Forested mountains cover most of the region, including much of the seacoast. River valleys, hillsides, and some land along the coast are used for farming. The coastal waters yield large amounts of fish. More than a fourth of the South Korean people live in the Central Mountains region.

The Southern Plain covers the entire southern coast of South Korea. This important agricultural region consists of a series of plains separated by low hills. Pusan, South Korea's second largest city and an important industrial center, is located in the region.

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The Northern Mountains region extends across almost all of central North Korea. Forested mountains cover most of the region. This rugged land is an important source of minerals and forest products.

The Naktong River, which is 325 miles (523 kilometers) long, is South Korea's longest river. It flows through the Southern Plain from mountains in the north to the Korea Strait. Almost a fourth of the South Korean people live in the Southern Plain region.

The Southwestern Plain extends along almost the entire western coast of South Korea. Like much of the rest of coastal Korea, this region consists of rolling hills and plains and is a farming center. The Han River flows through the region from mountains in the east to the Yellow Sea. The South's major industrial area is located around Seoul, which is the South's largest city. About half of South Korea's people live in the region.

Islands. Korea has more than 3,000 islands, most of which are unpopulated. People live on the larger ones. Cheju Island, about 50 miles (80 kilometers) south of the peninsula, is the largest island. It covers about 700 square miles (1,800 square kilometers). Cheju has its own provincial government. The other islands are governed by mainland provinces. South Korea's highest mountain, Halla-san (Halla Mountain), rises 6,398 feet (1,950 meters) on Cheju Island.

Climate

Seasonal winds called *monsoons* affect Korea's weather throughout the year. A monsoon blows in from the south and southeast during the summer, bringing hot, humid weather. A cold, dry monsoon blows in from the north and northwest during the winter, bringing cold weather.

Summer weather varies little throughout Korea. July temperatures average between 70 °F (21 °C) and 80 °F (27 °C). Korea's massive mountains protect the peninsula's east coast from the winter monsoon. As a result, the east coast generally has warmer winters than does the rest of Korea. Average January temperatures range from about 35 °F (2 °C) in southeastern Korea to about −5 °F (−21 °C) in parts of the Northern Mountains region.

Most of South Korea receives from 30 to 50 inches (76 to 130 centimeters) of *precipitation* (rain, melted snow, and other forms of moisture) yearly. Precipitation averages from 30 to 60 inches (76 to 150 centimeters) a year in most of North Korea. Heavy rainfall from June through August accounts for about half of Korea's yearly precipitation. In most years, one or two typhoons hit the peninsula during July and August.

Economy

After the Korean War ended in 1953, the economies of South and North Korea grew rapidly. Before the war, the economies of both parts of Korea had depended chiefly on agriculture, though North Korea had some heavy industry and South Korea had some light industry. After the war, industrial production, especially manufacturing, gained much importance in both economies. In addition, such service activities as communication, government, trade, and transportation grew in importance, particularly in South Korea.

North Korea's economy remains dependent on heavy industry. Its technology lags behind that of South Korea.

South Korea. The value of goods and services produced each year in South Korea totals about $485 billion. This value is the country's *gross national product* (GNP). Service industries account for about 51 percent of South Korea's GNP, and industrial production accounts for about 43 percent. Agriculture contributes about 6 percent. Agriculture employs about 12 percent of all South Korean workers, industry about 28 percent, and service activities about 60 percent.

Service industries are economic activities that provide services, rather than produce goods. Such industries are especially important to the Seoul area.

Wholesale and retail trade, hotels, and restaurants make up the main service industry group of South Korea. This service industry group benefits heavily from tourist activities, and it employs more than 25 percent of all workers. Government services and such community, social, and personal services as education and health care also employ many people.

Other service industry groups are becoming increasingly important in South Korea. They include finance, insurance, and real estate; transportation and communication; and utilities. Transportation and communication are discussed later in this section.

Manufacturing and mining. Almost all of South Korea's industry is privately owned. Manufacturing accounts for about 60 percent of the South's industrial production. The manufacture of clothing, shoes, and textiles employs more of the people of South Korea than does any other industry. Food processing is also one of South Korea's major industries.

After the Korean War, South Korea developed heavy industry, and it now ranks as a major producer of chemicals, fertilizers, iron and steel, machinery, and ships. In the 1970's and 1980's, South Korea expanded its production of automobiles, computer equipment and parts, electric appliances, optical goods, and television sets. Other manufactured products include paper, plywood, porcelain, and rubber tires.

South Korea's change from an agricultural economy to a modern industrial economy spurred a boom in construction. Factories, office and apartment buildings,



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Manufacturing has helped make South Korea one of the world's fastest-growing economies. The production of clothing, shoes, and textiles provides jobs for many people, such as these workers in a Seoul garment factory.

highways, and water and sewerage systems have been built throughout the nation. Construction accounts for about 23 percent of industrial production, and mining accounts for about 2 percent. *Anthracite* (hard coal) is the chief mined product. South Korea also mines graphite, iron ore, lead, tungsten, and zinc.

Agriculture and fishing. South Korea's 1 $\frac{1}{2}$ million farms average about 3 $\frac{1}{2}$ acres (1.3 hectares) in size. Almost all the farmland is privately owned. Rice is by far the country's chief crop. South Korean farms also produce apples, barley, Chinese cabbage, melons, onions, potatoes, soybeans, sweet potatoes, hogs, and chickens. The South's major agricultural areas lie along the western and southern coasts. A large orange crop is harvested on Cheju Island, off the southern coast.

South Korea is one of the world's leaders in the fishing industry. The catch includes filefish, oysters, and pollock. Many farmers add to their income by fishing.

Foreign trade. South Korea's chief trading partners are China, Japan, and the United States. The South's main exports include automobiles, clothing, electrical equipment, electronics, fish, ships, shoes, steel, and textiles. Its main imports include chemicals, crude oil and other industrial raw materials, and machinery.

Energy sources. Coal-, gas-, and petroleum-burning plants together provide about 60 percent of South Korea's electric power. Most of these plants use petroleum. South Korea imports all its petroleum. About 35 percent of the South's energy is generated by nuclear plants. A small percentage comes from water power.

Transportation. South Korea has an excellent government-owned railroad system and a highway network that includes expressways between the principal cities. However, traffic jams on the expressways occur frequently. South Korea has an average of about 1 automobile for every 6 people, and most city dwellers own a car. Buses and trains provide fast and frequent service. Seoul has an extensive subway system. Many people in rural areas use bicycles for short trips.

Korean Air and Asiana Airlines, two privately owned airlines, provide international flights and service between major South Korean cities. Seoul, Pusan, and Inchon have international airports.

Communication. Private and government-owned radio and television networks broadcast throughout South Korea. South Korea has an average of about 1 TV set for every 3 people and 1 radio per person.

About 60 daily newspapers are published in South Korea. The largest ones—*Choson Ilbo, Dong-A Ilbo, Hankook Ilbo,* and *Joong-ang Ilbo*—are all privately owned, published in Seoul, and sold throughout the country. There are two English-language dailies.

North Korea releases little information about its economy, and so the statistics in this section are estimates. North Korea's GNP totals an estimated $18 billion yearly. Industrial production probably accounts for the largest part of the GNP. Agriculture employs about 30 percent of North Korea's workers, industry about 30 percent, and service activities about 40 percent.

Until 1950, North Korea was the chief industrial region of the peninsula. But in the last half of the 1900's, South Korea surpassed it. North Korea has rivers suitable for producing electric power, as well as some of the richest mineral deposits in eastern Asia.

Service industries. Community, government, and personal services form North Korea's leading service industry group. This group includes such activities as education, health care, government, and the military. Trade, transportation, and communication have some importance. The government owns nearly all service industries in North Korea.

Manufacturing and mining. The North's chief manufactured products are cement, chemicals, iron and steel, machinery, metals, processed foods, and textiles. The government owns nearly all North Korean factories, and it tightly controls all industry. North Korean mines yield coal, graphite, iron ore, lead, magnesium, phosphates, salt, silver, tungsten, and zinc.

Agriculture and fishing. The government controls all of North Korea's farms. Most farms are collective farms, known in North Korea as *cooperatives.* Workers on these farms receive a share of the products and some cash payment. They may also help manage the farms. A few farms, called *state farms,* are owned and managed completely by the government. The workers on state farms receive wages.

The North's main agricultural region is the Northwestern Plain. Rice is by far the chief crop. Other major farm products include barley, corn, potatoes, and wheat.

North Korea's fishing industry is concentrated on its eastern coast. The catch includes pollock, sardines, shellfish, and squid. Fishing cooperatives are located on both coasts.

Foreign trade. North Korea's chief trading partners are China, Japan, and Russia and the other former republics of the Soviet Union. North Korea's leading exports are mined products, chiefly iron ore, lead, tungsten, and zinc. The North also exports cement, coal, machinery, rice, and textiles. Its major imports are grain, machinery, petroleum, and transportation equipment.

Energy sources. About three-fourths of North Korea's energy is produced by coal-burning plants. North Korea mines all the coal it needs. The rest of the North's energy comes from petroleum-burning plants and water power.

Transportation. Railroads carry most of North Korea's long-distance freight and passenger traffic. Buses operate in the cities and for short distances in rural areas. Almost all cars are government-owned and are intended for official business use. Many city people ride bicycles. North Korea operates an airline. The state runs the entire transportation system.

Communication. The government controls all broadcasting, publishing, and other means of communication in North Korea. It runs the country's radio and TV networks and its broadcasting stations in the provinces. North Korea has an average of about 1 radio for every 6 people and 1 television set for every 20 people. About 5 daily newspapers are published in North Korea.

History

Early years. Scientists have found evidence that people lived in the southwestern part of the Korean Peninsula about 30,000 years ago. But little is known about prehistoric times in what is now Korea.

In 2333 B.C., according to tradition, the first Korean state developed along the Taedong River, near present-day Pyongyang. It was called Choson. In 108 B.C., China conquered the northern half of the peninsula and estab-

lished four territories there. Korean tribes won back three of the territories by 75 B.C. The other territory, called Nangnang in Korean and Lelang in Chinese, remained under Chinese control.

During the last century B.C., several Korean tribes united and formed the state of Koguryo in the northeastern part of the peninsula. Two other Korean states—Paekche in the southwest and Silla in the southeast—were formed at about the same time. Historians call Koguryo, Paekche, and Silla the *Three Kingdoms.*

In 313, Koguryo conquered Nangnang and took control of the northern half of Korea. Buddhism, which the Koreans had learned about from the Chinese, became the chief religion of the Three Kingdoms in the 300's and 400's. In the 500's and 600's, wars raged among the Three Kingdoms for control of Korea. With the help of the Chinese Tang dynasty, Silla conquered Paekche and Koguryo in the 660's and took control of most of the peninsula. A *dynasty* is a line of rulers belonging to the same family. Korean art and learning flourished in the next 200 years. Confucianism, introduced from China, became a strong influence on Korean thought and behavior.

In the 800's, Silla broke apart as the kingdom lost control over former Koguryo and Paekche territories to rebel leaders. But by 932, a general named Wang Kon had reunited Silla. He renamed the country *Koryo.* The name Korea comes from Koryo. The government of Koryo built schools and encouraged the development of printing to make more books available. The Koreans invented the first movable metal printing type in 1234.

Mongol tribes from the north repeatedly attacked Koryo from the early 1230's until they conquered it in 1259. Koryo regained its freedom in 1368 when the Ming dynasty rose to power in China. Two groups, one allied with the Mongols, the other with the Ming dynasty, fought for control of Koryo. In 1388, a general named Yi Song-gye led the Ming group to victory.

The Choson dynasty. General Yi became king of Koryo in 1392 and renamed the country *Choson.* Today, North Koreans use the name Choson for their country. South Korea is known as *Taehan-min'guk.*

Yi founded a dynasty called the Choson dynasty (also known as the Yi dynasty). The dynasty lasted until 1910. Yi ended the government's official support of Buddhism, which had existed since the 700's. Buddhism declined in importance and did not become popular in Korea again until the 1900's.

Yi and the rulers who followed him reunited Korea, reorganized the government, and promoted the arts. In the 1400's, they regained lost territory and established the present northern boundaries of the country. But during the 1500's, government officials and wealthy landowners began to struggle for political power. This struggle weakened Korea's government.

Japanese forces invaded Korea in the 1590's but were driven out with the assistance of Chinese forces. Manchu armies from the north invaded in the 1630's. The Manchus forced Koreans to submit *tributes* (payments), but members of the Yi family continued as kings.

In the 1600's, Korea's rulers closed the country to all foreigners except Chinese and Japanese. The closure continued for almost 200 years. Korea was called the *Hermit Kingdom* during this period. Roman Catholicism came to Korea from China in the 1780's. Catholic missionaries from Europe first arrived during the 1830's. But Korean authorities persecuted the missionaries and killed thousands of Koreans who had become Catholics.

Korea under Japan. In 1876, Japan forced Korea to open some ports to trade. Soon thereafter, the United States, Russia, and several European nations signed commercial treaties with Korea. An intense rivalry over control of Korea began. Japan defeated China in the Chinese-Japanese War of 1894-1895, and Japan's influence in Korea became stronger than China's. Japan's victory over Russia in the Russo-Japanese War (1904-1905) forced Russia to recognize Japan's superior influence in Korea. Japan took complete control of Korea in 1910.

The Japanese governed Korea as a colony to benefit their own interests. During the 1930's, the Japanese built heavy industries in Korea to supply Japan with chemicals, iron and steel, machinery, and other goods. In the 1940's, the Japanese forced the Koreans to take Japanese-style names, and they banned the use of the Korean language. Many Koreans were forced to aid the Japanese war effort during World War II. Some were sent to work in mines and factories. Others were drafted into the Japanese military. Some Korean women were forced to work as prostitutes for the Japanese armed forces.

A divided nation. Korea remained under Japanese control until 1945, when Japan was defeated in World War II. After Japan's defeat, U.S. troops occupied the southern half of Korea, and Soviet forces occupied the northern half. The United States and the Soviet Union tried to develop a plan for reuniting Korea. They failed, and the United States submitted the problem to the United Nations (UN) in 1947.

The United Nations wanted to supervise elections to choose one government for Korea. But the Soviet Union refused to allow UN representatives into the North. In the South, in 1948, UN representatives supervised an election of representatives to a National Assembly. The Assembly drew up a constitution. In July 1948, the Assembly elected Syngman Rhee president of the Republic of Korea, which was formed on August 15. In northern Korea, the Communists announced formation of the Democratic People's Republic of Korea on September 9.

Important dates in Korea

108 B.C. China conquered the northern half of Korea.
A.D. 313 Korean forces drove the Chinese from Korea.
668 The Korean peninsula unified under the Silla kingdom.
1259 Mongol armies conquered the Koreans.
1368 The Koreans freed themselves of Mongol rule.
1392 General Yi Song-gye founded the Choson (or Yi) dynasty.
1443 King Sejong's court scholars created the Korean alphabet.
1590's Japanese forces invaded Korea but were driven out.
1630's Manchu armies invaded Korea and forced it to acknowledge the Manchu as feudal lords. But members of the Yi family continued as kings.
1910 Japan took control of Korea. The Choson dynasty ended.
1945 Soviet forces occupied northern Korea, and U.S. forces occupied southern Korea, after World War II.
1948 The Republic of Korea (South Korea) and the Democratic People's Republic of Korea (North Korea) were created.
1950-1953 South Korea fought North Korea in the Korean War. Tension between the two Koreas continued after the war.
1991 South Korea and North Korea agreed to accept each other's existence and not to use force against each other.
2000 The leaders of South Korea and North Korea met for the first time.

Both governments claimed to represent all of Korea.

In December 1948, the Soviet Union announced that all its troops had left North Korea. The United States withdrew its last troops from South Korea in mid-1949.

North Korean troops invaded the South in June 1950, and the Korean War began. The fighting continued until an armistice was signed in July 1953. Neither side won complete victory. The war involved not only the two Koreas, but also the most powerful Communist and non-Communist nations. See **Korean War**.

South Korea. The division of Korea left the South with a weak economy. It had little industry and few electric power plants. The Korean War added to South Korea's economic problems. The fighting ruined farm crops and destroyed many factories. Hundreds of thousands of people were killed or wounded. South Korea had to rely heavily on aid from other countries.

Rhee's term was due to end in 1952. But members of the National Assembly had become increasingly critical of Rhee, and he feared the legislators would not reelect him. He pushed through the Assembly a constitutional amendment that turned over election of the president to the people. The voters reelected Rhee by a wide margin. In 1955, Rhee again had the Constitution amended to permit him to serve more than two terms. He was reelected to a third term in 1956. But an increasing number of South Koreans strongly opposed Rhee's undemocratic methods for keeping control of the government.

In March 1960, Rhee ran for a fourth term. He was unopposed because his opponent died one month before the election. Rhee and his party won. In March and April, students led widespread demonstrations against the government. Rhee saw that he was rapidly losing political and military support, and he resigned in April.

Elections were held in July 1960, and a new government took office. But South Korea's economic difficulties continued, and the new government weakened as rival groups fought for political power. In May 1961, a group of military officers led by General Park Chung Hee overthrew the government. Park then became head of the new government. In 1963, Park called for elections to restore democratic government. He won the election for president, and his Democratic Republican Party gained a majority of the seats in the National Assembly.

South Korea under Park. South Korea's economy progressed rapidly under Park. His government concentrated on developing industries and increasing foreign trade. In 1967 and 1971, Park and his party won reelection by a large margin. In 1972, Park forced through a new constitution that gave him almost unlimited powers. It also provided that the president might serve an unlimited number of terms. Park was reelected by the country's electoral college—whose members had been chosen by his supporters—in a special election held that year. Park was reelected again in 1978. His party won the National Assembly elections in 1973 and 1978.

Park frequently used his power to suppress opposition to his government. Freedom of speech and of the press were limited, and many South Koreans who opposed Park were jailed. Many of Park's opponents denounced him as a dictator.

During the Korean War, United States troops had fought on the side of South Korea. After the war, thousands of U.S. troops were stationed in South Korea. In 1977, the U.S. government announced plans for a gradual withdrawal of all its troops. By mid-1979, about 10 percent of the troops had been withdrawn. But the U.S. government then said it would postpone further withdrawals until relations between North and South Korea improved. In 1981, President Ronald Reagan announced that no more U.S. troops would be withdrawn.

In October 1979, President Park was assassinated by Kim Jae Kyu, head of South Korea's Central Intelligence Agency (now called the Agency for National Security Planning). In December, Prime Minister Choi Kyu Hah was elected president by the electoral college.

The rise of Chun. Choi's government ended some of the restrictions on freedom of expression that Park had imposed. But the government delayed a promised constitutional revision that would allow the people to elect the president directly. Many South Koreans then staged demonstrations. In May 1980, military leaders declared martial law and reestablished the restrictions on freedom of expression. Choi remained president, but the military, led by Lieutenant General Chun Doo Hwan, dominated the government. Violent clashes broke out between demonstrators and the military in the city of Kwangju. Hundreds of demonstrators were killed in what came to be known as the Kwangju Massacre.

In August 1980, Choi resigned and the electoral college elected Chun president. In October, a new constitution was adopted. Martial law was repealed in January 1981. In February, Chun was again elected by the electoral college. The next month, Chun's Democratic Justice Party won a majority of seats in the National Assembly. Chun's government stabilized prices and increased exports, but scandals involving Chun's relatives lessened its popularity. Many students demonstrated against Chun and demanded a more democratic constitution.

A new constitution. In June 1987, Chun pledged to allow direct election of the president by the people rather than by the electoral college. The direct election was held in December, and Roh Tae Woo of the Democratic Justice Party, a former general and close associate of Chun, was elected president. In 1990, the Democratic Justice Party merged with two smaller parties to form the Democratic Liberal Party. Kim Young Sam, a Democratic Liberal, was elected president in 1992.

In October 1987, a new democratic constitution was adopted by a referendum of all the voters. It allows almost complete political freedom. Since its adoption, students have demonstrated in large numbers demanding correction of many social problems. Laborers have staged frequent strikes for higher wages and better working conditions. The political and economic turmoil have interfered with South Korea's economic growth.

North Korea. Kim Il Sung became North Korea's leader when the government was established in 1948. In 1946, when North Korea was still under Soviet occupation, the Communist government took farmland from wealthy landowners and gave it to poor farmers. The government also took control of most industries. From 1953 to 1956, Kim's government organized all farmland into collective farms. In 1954, it announced the first of a series of plans for economic development, all emphasizing heavy industry. North Korea also built up its military power. Kim's government operated as a strict dictatorship. Kim remained in power until his death in 1994.

North-South relations. After the Korean War ended in 1953, the two sides remained hostile and suspicious of each other. In 1967, North Korean forces began making attacks in the *demilitarized* (neutral) zone between the North and the South and into South Korea. In 1968, about 30 North Korean troops raided Seoul. They tried to assassinate President Park but failed.

In January 1968, North Korea seized the U.S. intelligence ship *Pueblo* in the East Sea (Sea of Japan). In 1969, the North shot down a U.S. Navy plane almost 100 miles (160 kilometers) off the North Korean coast.

In 1971, representatives of the South and the North began formal reunification discussions for the first time since the Korean War. Tensions between the two remained high, however. In 1983, a bomb blast killed 17 South Koreans, including four cabinet ministers, during an official visit to Rangoon, Burma (now Yangon, Myanmar). A court in Burma found North Korean agents guilty of the bombing. In 1988, South Korea hosted the Summer Olympics. North Korea refused to participate after its request to be named co-host was denied.

In 1991, the two governments agreed to accept each other's existence, and North and South Korea joined the UN as separate states. Also in 1991, talks resulted in several agreements, including a pact in which the two Koreas agreed not to use force against each other. As part of the pact, the two governments also agreed to increase trade and communication—which had been restricted—between them. Another accord prohibited North and South Korea from using or possessing nuclear weapons.

In 2000, for the first time since Korea was divided, the leaders of North and South Korea met face-to-face to discuss relations.

Recent developments in South Korea. Kim Dae Jung, a strong advocate of democracy, was elected president in 1997. He was the first politician from an opposition party—a party that does not have a majority of seats in parliament—to hold South Korea's presidency.



AP/Wide World

The leaders of North and South Korea met in 2000 for the first time since Korea was divided. North Korea's leader, Kim Jong Il, *left,* greets South Korea's president, Kim Dae Jung, *right.*

Much of Asia experienced severe economic problems in the late 1990's. The value of South Korea's currency fell, and its stock market plunged. Businesses went bankrupt, and the South faced widespread unemployment. By 2000, the country had largely recovered.

Recent developments in North Korea. A crisis threatened to develop in 1994, when North Korea refused to allow international inspections of its nuclear sites. But North Korea signed a broad agreement with the United States promising to halt all nuclear weapons-related activities in return for energy assistance.

North Korea began experiencing severe food shortages during the mid-1990's. Floods and drought destroyed crops. Experts estimated that hundreds of thousands of North Koreans starved to death. Donations of food from around the world began arriving during the late 1990's.

After Kim Il Sung died in 1994, a long struggle for power began. In 1998, North Korea's government proclaimed the deceased Kim Il Sung "eternal president." It then decreed that the head of the National Defense Commission would act as the country's highest living official. Kim Il Sung's son, Kim Jong Il, held this position and thus became North Korea's leader.

Bonnie Bongwan Cho Oh

Related articles in *World Book* include:

Army (The world's major armies)
Asia (picture: A fish market)
Chinese-Japanese wars
Clothing (picture: Traditional costumes)
Inchon
Kim Il Sung
Kim Jong Il
Martial arts (Korean martial arts)
October
Panmunjom
Park Chung Hee
Pusan
Pyongyang
Russo-Japanese War
Sculpture (Korea)
Seoul
Tae kwon do
Taegu
Yalu River

Outline

I. Government
II. People
- A. Ancestry
- B. Population
- C. Language

III. Way of life
- A. City life
- B. Rural life
- C. Clothing
- D. Food and drink
- E. Recreation
- F. Religion
- G. Education
- H. The arts

IV. The land
- A. The Northwestern Plain
- B. The Northern Mountains
- C. The Eastern Coastal Lowland
- D. The Central Mountains
- E. The Southern Plain
- F. The Southwestern Plain
- G. Islands

V. Climate
VI. Economy
VII. History

Questions

When were North Korea and South Korea established?
What is the chief crop grown in Korea?
What percentage of the workers in Korea are farmers?
Why did North Korea refuse to participate in the 1988 Summer Olympic Games?
Why was Korea once called the *Hermit Kingdom*?
What are Korea's main land regions?
How do monsoons affect the weather in Korea?
How does city life in North Korea differ from that in South Korea?
What economic disadvantages did the South have after Korea was divided?
How has the Korean way of life changed since 1900?

Additional resources

Collinwood, Dean W. *Korea.* Benchmark Bks., 1996. Younger readers.
Macdonald, Donald S. *The Koreans.* 3rd ed. Westview, 1996.
Oberdorfer, Don. *The Two Koreas.* Addison-Wesley, 1997.
Savada, Andrea M., ed. *North Korea: A Country Study.* 4th ed. U.S. Government Printing Office, 1994.
Savada, Andrea M., and Shaw, William, eds. *South Korea: A Country Study.* 4th ed. U.S. Government Printing Office, 1992.

Korean War was the first war in which a world organization, the United Nations (UN), played a military role. The Korean War was a major challenge for the United Nations, which had been formed only five years earlier.

The Korean War began on June 25, 1950, when troops from Communist-ruled North Korea invaded South Korea. The UN called the invasion a violation of international peace and demanded that the Communists withdraw from South Korea. After the Communists kept fighting, the UN asked its member nations to give military aid to South Korea. Sixteen UN countries sent troops to help the South Koreans, and 41 countries sent military equipment or food and other supplies. The United States provided about 90 percent of the troops, military equipment, and supplies that were sent to South Korea. China fought on the side of North Korea, and the Soviet Union gave military equipment to the North Koreans.

The Korean War ended on July 27, 1953, when the UN and North Korea signed an armistice agreement. A permanent peace treaty between South Korea and North Korea has never been signed. However, United States military forces remain in South Korea to discourage a resumption of hostilities between the two parts of Korea.

The Korean War was one of the bloodiest wars in history. About a million South Korean civilians were killed, and several million were made homeless. More than 560,000 United Nations and South Korean troops and about 1,600,000 Communist troops were killed or wounded or were reported missing.

Causes of the war

The Japanese gained control of Korea in 1895 and made it part of Japan in 1910. The Allies defeated Japan in World War II (1939-1945), and U.S. and Soviet forces moved into Korea. After the war, Soviet troops occupied Korea north of the 38th parallel of north latitude, an imaginary line that cuts the country about in half. American troops occupied Korea south of the 38th parallel.

In 1947, the UN General Assembly declared that elections should be held throughout Korea to choose one government for the entire country. The Soviet Union opposed this idea and would not permit elections in North Korea. On May 10, 1948, the people of South Korea elected a legislature, the National Assembly. The Assembly set up the government of the Republic of Korea. On September 9, North Korean Communists established the Democratic People's Republic of Korea. Both North and South Korea claimed the entire country, and their troops clashed near the border several times from 1948 to 1950. The United States removed its last troops from Korea in 1949 and indicated early in 1950 that Korea lay outside the main U.S. defense line in Asia. The Communists believed the time was right for military action.

The land war

Outbreak. When North Korea invaded South Korea, the North Korean Army had about 135,000 soldiers. Many of the soldiers had fought for China and the Soviet Union during World War II. North Korea had airplanes, artillery, and tanks. The South Korean Army had about 95,000 soldiers, few planes or heavy guns, and no tanks. At first, the South Korean Army put up little resistance to the enemy attack.

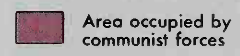


Michael Rougier, *Life* Magazine, Time Inc.

United Nations troops from 16 countries fought Communist troops during the Korean War. These American soldiers are observing Communist artillery movements.

The Korean War

These maps show four stages of the Korean War. The first map shows the farthest extent of the North Korean invasion—to the Pusan Perimeter in September 1950. The second map shows the site of the Inchon landing by the United Nations (UN) forces. Following this surprise move, the UN troops advanced as far north as the Yalu River by October 1950. The third map shows the extent of the retreat by the UN forces after China entered the war in October 1950. The fourth map shows the territory held by the two sides when they signed an armistice agreement on July 27, 1953.


Area occupied by communist forces

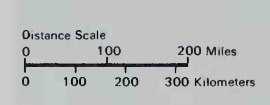

Area occupied by UN forces


Movement of communist forces


Movement of UN forces

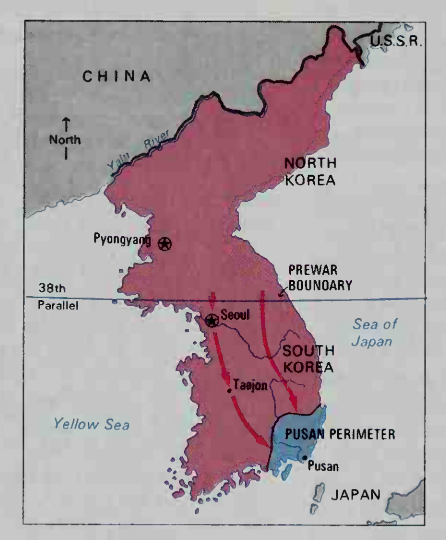
⊛ Capital

• Other city

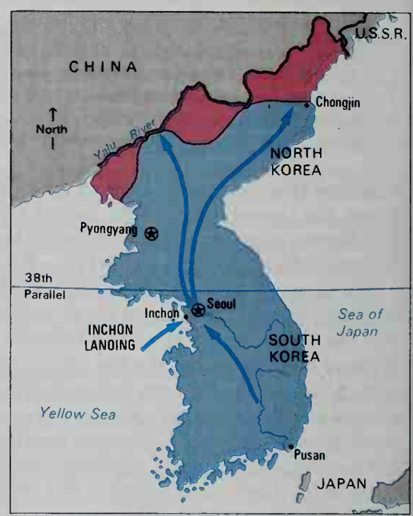


WORLD BOOK maps

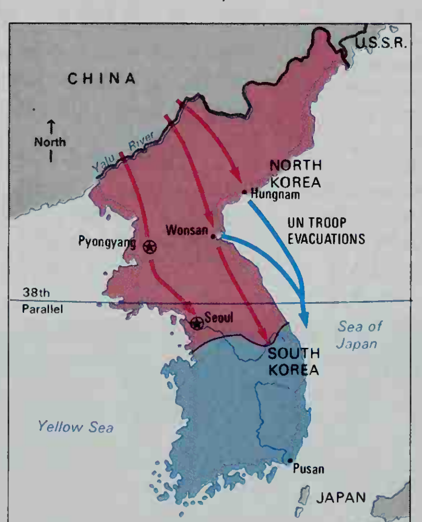
1. North Korean invasion
June to September 1950



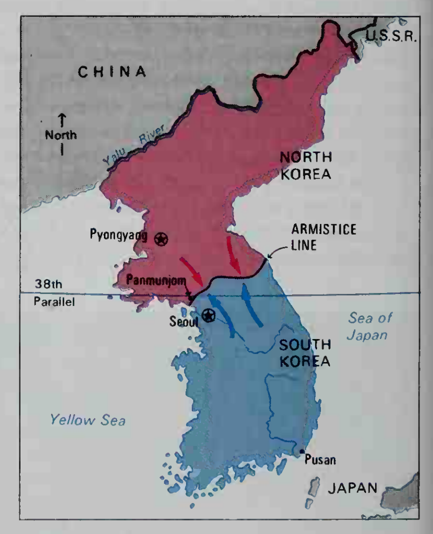
2. UN forces move north
September to October 1950



3. Chinese offensive
November 1950 to January 1951



4. UN advance and armistice
January 1951 to July 1953



At their greatest strength, the South Korean and UN forces consisted of almost 1,110,000 soldiers. About 590,000 were South Koreans, and about 480,000 were Americans. About 39,000 came from Australia, Belgium, Canada, Colombia, Ethiopia, France, Great Britain, Greece, Luxembourg, the Netherlands, New Zealand, the Philippines, South Africa, Thailand, and Turkey.

The North Korean Army grew to more than 260,000 troops during the war. China sent another 780,000 soldiers to help the North Koreans.

On the day the war began, the UN Security Council issued a resolution demanding that the Communists stop fighting and retreat to the 38th parallel. The Soviet Union, a member of the 11-nation Council, could have vetoed the resolution. But the Soviet Union was boycotting Council meetings to protest Nationalist China's membership on the Council, and the Soviet delegate was absent when the vote on Korea was taken.

North Korea ignored the UN demand, and on June 27 its troops reached the outskirts of Seoul, the South Korean capital. That same day, both President Harry S. Truman and the UN took action to try to halt the Communist advance. Truman ordered U.S. air and naval forces to South Korea and the UN asked its members to aid South Korea. Truman ordered American ground forces into action on June 30. Congress supported Truman's actions and the UN's policy, but did not formally declare war against North Korea.

On July 1, part of the U.S. Army 24th Infantry Division flew from Japan to Pusan at the southern tip of Korea. The next day, these troops began to move into battle positions near Taejon, about 75 miles (121 kilometers) south of Seoul. Troops from other UN nations began arriving in Korea shortly after the Americans.

American troops first fought the North Koreans on July 5 at Osan, 30 miles (48 kilometers) south of Seoul. The Communists had already captured Seoul.

On July 8, with the approval of the UN Security Council, Truman named General Douglas MacArthur commander in chief of the United Nations Command. The command had authority over all the Allies—South Koreans, Americans, and the troops from other UN countries. MacArthur directed Allied operations from his headquarters in Tokyo, Japan. On July 13, Lieutenant General Walton H. Walker, head of the U.S. Eighth Army, became field commander of the Allied ground forces in Korea.

Units of the U.S. Army 1st Cavalry Division and 25th Infantry Division landed in Korea on July 19 to aid the outnumbered soldiers of the 24th Division. But another city, Taejon, fell to the Communists on July 21.

The Pusan Perimeter. The U.S. 1st Marine Provisional Brigade and the 2nd Infantry Division of the Army arrived in South Korea in late July. But the Allies were forced back to the Pusan Perimeter by August 2. The Pusan Perimeter was a battle line in the southeast corner of South Korea. It extended roughly from the city of Pohang on the southeast coast, west around Taegu, and south and southeast nearly to Pusan. The Naktong River was the boundary of most of the area.

The fighting at the Pusan Perimeter became a turning point in the war. The North Koreans lost about 58,000 soldiers and much equipment while advancing to the area. The rapid growth of American military strength gave General Walker flexibility in the use of his troops. North Korea tried to break through the perimeter by making scattered attacks along it. Walker reacted by using reserves to meet each enemy thrust, keeping his main defense line intact. Overhead, U.S. planes provided air support and fired at the long enemy supply lines. More American tanks and artillery arrived at Pusan to strengthen the defense of the perimeter.

The North Koreans saw that the Allies were gaining military superiority. They mounted a major attack and succeeded in crossing the Naktong River on August 6. But U.S. marines and Army forces counterattacked and prevented a general breakthrough. The North Koreans advanced to within shelling distance of Taegu, but major losses of troops and equipment forced them to pull back on August 25. The Communists attacked the Pusan Perimeter again on September 3. They captured Pohang three days later, but the Allies halted the enemy advance on September 8.

The Inchon landing was a surprise move that changed the course of the war. In mid-September 1950, soldiers of the U.S. X (10th) Corps, accompanied by U.S. marines, sailed from Japan to Inchon, on the northwest coast of South Korea. On September 15, the marines captured the port. The soldiers then came ashore. MacArthur personally directed the amphibious landing. It required especially careful planning because the tides at Inchon vary more than 30 feet (9 meters). Each boat had to land at high tide because any boat near the shore when the tide dropped would be trapped in mud. The troops who landed at Inchon cut off the North Koreans in the Pusan Perimeter area from those north of Inchon.

Commanded by Major General Edward M. Almond, the X Corps moved toward Seoul, 24 miles (39 kilometers) northeast of Inchon. After a bitter battle, MacArthur announced the capture of Seoul on September 26. Meanwhile, General Walker's troops fought their way out of the Pusan Perimeter, inflicting heavy losses on the enemy. On September 28, they joined the X Corps near Seoul. MacArthur broadcast a demand for surrender, but North Korea rejected it.



U.S. Army

General Douglas MacArthur, *center,* led the Inchon landing, a surprise move that turned the tide of war in the Allies' favor in September 1950. After the landing, he and his aides inspected the area near Inchon and Seoul, *shown here.*

The Allies move north. Late in September, the Allies prepared to invade North Korea. South Korean troops crossed into North Korea on October 1 and captured the coastal cities of Wonsan, Hungnam, and Hamhung. The Eighth Army troops reached North Korea on October 8 and drove the North Koreans toward Pyongyang, the capital. They captured Pyongyang on October 19, and the Communists retreated farther north.

From Pyongyang, the Eighth Army marched through northwestern Korea toward the Yalu River, the border between North Korea and China. Parts of the X Corps drove through northeastern Korea. Some military experts later criticized this strategy of two commands.

China warned against further advances toward its border. But General MacArthur, hoping to end the war before winter set in, ordered the Allies to press on. U.S. and Chinese troops first clashed on October 25, near the Changjin Reservoir and at Onjong, near Pukchin. They fought until November 6, when the Chinese suddenly withdrew. The Allies then pulled back to regroup.

MacArthur and his sources of information underestimated the size of the Chinese armies. More than 300,000 Chinese troops crossed into North Korea in October and November. MacArthur believed the Allied forces outnumbered the Chinese and that the Chinese would be used for defense only. He also thought that Allied air power could prevent additional Chinese troops from entering North Korea. Political leaders in Washington and most of the Allied commanders shared MacArthur's confidence that the war would be over by Christmas. Allied planes roamed the length of Korea, and Allied war

ships sailed unchallenged along the coastlines, bombarding enemy ports. MacArthur ordered another advance on November 24.

The Allies retreat. Hopes for a quick end to the war soon disappeared. China sent a huge force against the Allies on November 26 and 27 and forced them to retreat. By the end of November, the Communists had driven a wedge between Eighth Army troops in the west and the X Corps in the east. The X Corps had remained independent from the Eighth Army.

The Allies began to withdraw from Pyongyang on December 4. Four days later, 20,000 U.S. marines and infantrymen, surrounded by Chinese, started a historic retreat from the Changjin Reservoir to the port of Hungnam. By Christmas Eve, 105,000 U.S. and Korean troops, 91,000 refugees, and 17,500 vehicles had been evacuated by sea from Hungnam. In the west, the Communists crossed into South Korea and captured Korangpo, 28 miles (45 kilometers) from Seoul.

General Walker was killed in a jeep accident, and Lieutenant General Matthew B. Ridgway took command of the Eighth Army on December 27. The Communists began to attack Seoul on New Year's Eve, and they occupied the city on Jan. 4, 1951. The Allies dug in about 25 miles (40 kilometers) south on January 10, and their retreat ended.

The "Battle for the Hills." Ridgway quickly restored the confidence of the Allied troops, and they soon inflicted heavy losses on the enemy. The Allies began to move north again on Jan. 16, 1951. In 15 days, they were in position to fire on Seoul. Ridgway used a new tactic calling for slower advances that would wipe out all enemy forces instead of by-passing some.

The Allies reoccupied Seoul on March 14 without a fight. They advanced a short distance into North Korea by June. By then, the war had changed. The two sides dug in and began fighting along a battle line north of the 38th parallel. Truce talks began in July, but fighting continued for two more years. Neither side made important advances, but they fought many bitter battles for strategic positions. During this period, the war was sometimes called the "Battle for the Hills." Battlefields included Bloody Ridge, Finger Ridge, Heartbreak Ridge, Old Baldy, and Pork Chop Hill.

One of the most controversial events of the war took place on April 11, 1951, when President Truman removed General MacArthur from command and replaced him with Ridgway. The president's action resulted from a continuing dispute between MacArthur and defense leaders in Washington as to how the Allies should conduct the war. From the outset, MacArthur had issued public statements that there was no substitute for total victory. Now he wanted to bomb bases in Manchuria, a part of China, and use other "all-out measures." Truman and his advisers feared such actions might lead to a third world war. Truman decided he could no longer accept MacArthur's open disagreement with national policy. Ridgway went to Tokyo to replace MacArthur, and Lieutenant General James A. Van Fleet became commander of the Eighth Army.

Air and naval activity

The air war. The Korean War marked the first battles between jet aircraft. Early in the conflict, Allied bombers and fighter planes based in Japan, Okinawa, and South Korea roared over North Korea unopposed. They supported Allied troops, killed enemy troops, and damaged Communist bases.

The Soviet Union soon began to supply North Korea with MiG-15 jets, and dogfights became an important part of the war. As many as 100 to 150 U.S. F-86 Sabre jets and Soviet-built MiG-15's took part in some air battles. All the dogfights occurred over North Korea because Allied planes were not permitted to cross the Yalu River, and the MiG-15's never flew south of the 38th parallel. Most of the battles took place in "MiG Alley," an area between the Yalu and Pyongyang.

The Allies used helicopters to carry wounded soldiers from battle zones to hospitals. Helicopter pilots made daring rescues of Allied fliers who had been shot down. For the first time, helicopters carried troops into combat.

The U.S. Air Force, Navy, and Marine Corps lost more than 2,000 planes during the war. Most of them were shot down by Communist antiaircraft guns. Allied fliers destroyed more than 1,000 Communist planes. Navy and Marine fliers killed about 100,000 Communist troops, and Air Force fliers killed about 184,800.

Naval warfare. The Allied naval forces included 80 destroyers, 16 aircraft carriers, 8 cruisers, and 4 battleships. The U.S. Navy helped troops land by firing shells at enemy targets on shore. Wonsan, a Communist oil refining and industrial city, was under naval siege for more than two years.

Five Navy ships were sunk and 82 were hit during the war. The vessels sunk were the minesweepers *Pledge, Partridge, Pirate,* and *Magpie,* and the tug *Sarsi.*

The end of the war

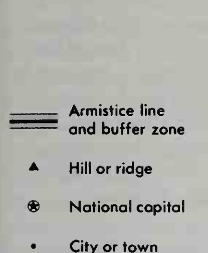
The truce talks. Hopes for peace increased when Jacob Malik, the Soviet delegate to the UN, proposed a cease-fire on June 23, 1951. On June 30, Ridgway, acting on instructions from Washington, suggested a meeting between Allied and Communist military officers to discuss a truce.

The truce talks began July 10 at Kaesong and were moved to Panmunjom on October 25. A settlement seemed near on November 27, when both sides agreed that the existing battle line would be the final dividing line between North and South Korea if a truce were reached within 30 days. This agreement had the effect of limiting combat, because neither side had much to gain by winning ground it might later have to surrender.

Several issues, especially *voluntary repatriation of prisoners,* prevented a settlement within the 30-day period. The UN Command had insisted that prisoners of both sides be allowed to choose whether or not they would return to their homelands. Many Chinese prisoners of the Allies had fought against the Communists during the Chinese civil war. They staged a violent protest against a forced return to life under Communism. Some North Korean captives also refused to return home. The Communists could not agree to the UN demand without admitting that Communism had thus far failed to secure the loyalty of all its citizens.

By late April 1952, the truce talks were firmly deadlocked over voluntary repatriation. Fighting continued along the battle line. On October 8, the UN Command





Korean War armistice line

The armistice line between North Korea and South Korea was established by the armistice of July 27, 1953. A buffer zone, 2 ½ miles (4 kilometers) wide, was created along the final battle line. The map shows many hills and ridges that were the scenes of bitter fighting.

WORLD BOOK map

adjourned the truce talks. It said the talks would resume when the Communists were ready to offer a helpful suggestion for settling the one remaining issue—voluntary repatriation.

General Mark W. Clark replaced Ridgway as commander in chief of the United Nations Command in May 1952. Dwight D. Eisenhower became president of the United States in January 1953. Then, on March 5, 1953, Soviet premier Joseph Stalin died. After Stalin's death, Soviet leaders began talking of the need to settle disputes peacefully. On March 28, the Communists accepted an earlier offer by the UN Command for an exchange of sick and wounded prisoners. The Communists also indicated that the truce talks should be resumed. The exchange took place in April and May. The UN Command received 684 sick and wounded prisoners, including 149 Americans. It returned 6,670 Communist prisoners.

The truce talks were resumed on April 26, and the Communists accepted voluntary repatriation. They agreed to let prisoners indicate their choice to the Neutral Nations' Repatriation Commission, which consisted of representatives of Czechoslovakia, India, Poland, Sweden, and Switzerland.

An armistice agreement was signed on July 27, 1953, and the fighting ended. A buffer zone, called the *Demilitarized Zone,* divided the two sides. It was 2 ½ miles (4 kilometers) wide along the final battle line. South Korea gained about 1,500 square miles (3,880 square kilometers) of territory. Both sides agreed not to increase their military strength. A Military Armistice Commission, with representatives from both sides, was set up to enforce the armistice terms. The armistice also provided for a political conference to work out a final settlement.

After the armistice was signed, each side charged the other with torture and starvation of prisoners, and other war crimes. The North Koreans and Chinese Communists were also accused of brainwashing prisoners (see **Brainwashing**). The UN General Assembly adopted a general resolution condemning such acts.

The United States spent about $67 billion on the war. Almost all parts of Korea were heavily damaged. About 1 million civilians were killed in South Korea, and property damage was estimated at more than $1 billion. Statistics were not given for civilian deaths and damage in North Korea.

Prisoner exchange. The UN Command and the Communists completed an exchange of 88,559 prisoners in September 1953. The Neutral Nations' Repatriation Commission took custody of prisoners who refused to return to their homelands. The armistice provided that delegates from the various countries could visit these prisoners and try to persuade them to go home. But 14,227 Chinese, 7,582 North Koreans, 325 South Koreans, 21 Americans, and 1 British prisoner refused to return. Some of these men later changed their minds.

Peace negotiations. In 1954, Soviet officials and representatives of countries that had fought in Korea met in Geneva, Switzerland. But the negotiators failed to draw up a permanent peace plan. Nor were they able to settle the question of unifying Korea. An agreement to work

Military casualties in the Korean War

	Total casualties	Dead	Wounded	Prisoners or missing
South Korea	400,167	58,127	175,743	166,297
United States	144,978	36,516	103,284	5,178
Other United Nations	17,260	3,194	11,297	2,769
	562,405	97,837	290,324	174,244

	Total casualties	Dead or wounded	Prisoners
China	967,000	945,000	22,000
North Korea	624,000	522,000	102,000
	1,591,000	1,467,000	124,000

toward the negotiation of a permanent peace treaty was signed by North and South Korea in 1991 and ratified in 1992. But in 1991, North Korea began to boycott the Military Armistice Commission, and China withdrew from the commission in 1994. Lloyd C. Gardner

Related articles in *World Book* include:

Air force (Air forces in limited wars)
Clark, Mark W.
Korea (History)
Korean War Veterans Memorial
MacArthur, Douglas
Panmunjom
Ridgway, Matthew B.
Truman, Harry S. (The Korean War)
United Nations (The Korean War)

Outline

I. Causes of the war
II. The land war
A. Outbreak
B. The Pusan Perimeter
C. The Inchon landing
D. The Allies move north
E. The Allies retreat
F. The "Battle for the Hills"
III. Air and naval activity
A. The air war
B. Naval warfare
IV. The end of the war
A. The truce talks
B. Prisoner exchange
C. Peace negotiations

Questions

What events led to the Korean War?
Why was the role of the UN unique in the war?
What was the Pusan Perimeter? MiG Alley?
Why did the Inchon Landing require very careful planning?
Why did the UN Command adjourn the truce talks in 1952?
Why did the Soviet Union fail to veto the UN Security Council resolution of June 25, 1950?
What were the provisions of the 1953 armistice agreement?
Why was the last part of the war sometimes called the "Battle for the Hills"?
Why did President Truman relieve General MacArthur from command?
What two aviation "firsts" occurred during the war?

Additional resources

Kaufman, Burton I. *The Korean Conflict.* Greenwood, 1999.
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Stein, R. Conrad. *The Korean War.* 1994. Reprint. Enslow, 2000. Younger readers.
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Korean War Veterans Memorial is a monument in Washington, D.C., that honors Americans who served in the Korean War (1950-1953). It stands on the National Mall. The memorial includes 19 large statues of American combat troops in the Korean War, a circular Pool of Remembrance, and a commemorative mural wall.

The statues, sculptured by Frank C. Gaylord II and made of stainless steel, stand from 7 $\frac{1}{4}$ to 7 $\frac{1}{2}$ feet (2.2 to 2.3 meters) tall. The combat troops are on patrol. They wear rain gear, symbolizing the Korean climate; and are trudging uphill on a bed of evergreen shrubs, for the rugged Korean terrain. Their symbolic destination is an American flag on a flagpole in the distance. The pool partially encircles the flag. It is surrounded by benches for visitors. The wall, designed by Louis Nelson and made of black granite, stands to the right of the statues. It extends 164 feet (50 meters) long. Pictures of about 2,500 U.S. military people who supported the combat troops in Korea are etched into the wall. The images include chaplains, clerks, doctors and nurses, engineers, and helicopter pilots. The monument was dedicated in 1995. It is administered by the National Park Service.

Critically reviewed by the National Park Service

See also **Washington, D.C.** (two-page map; picture).

Korzeniowski, Józef. See Conrad, Joseph.

Kosciuszko, Mount. See Mount Kosciuszko.

Kościuszko, *KAHS ee UHS koh* or *kawsh CHOOSH kaw,* **Tadeusz,** *tah DEH oosh* (1746-1817), was a Polish patriot who fought for the independence of the United States and Poland. He is often called the "Hero of Two Worlds." His name is also spelled Thaddeus Kosciuszko.

Kościuszko was born in what is now western Belarus. He went to America in the summer of 1776, during the Revolutionary War in America. He offered his services to the Continental Congress and was appointed engineer with the rank of colonel. He built fortifications near Saratoga and strengthened American defenses along the Hudson River, including those at West Point. After the war ended in 1783, Congress made Kościuszko a brigadier general.

Kościuszko returned to Poland in 1784. In 1794, he commanded a Polish *insurrection* (uprising) against Russian control. In this struggle, he combined Poland's fight for independence with the people's struggle for social justice. The defeat of the insurrection led to the third *partition* (division) of Poland by Russia, Prussia, and Austria. See **Poland** (The partitions). John J. Kulczycki

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Kosher, *KOH shuhr,* also spelled *kasher,* is a Hebrew word that means *fit* or *proper.* The word usually refers to food, but it may apply to anything considered ritually correct or acceptable according to Jewish law. For example, a witness in a trial conducted under Jewish law may be called a kosher witness.

Kosher food is food prepared according to the Jewish dietary laws. These laws are based on passages from the Biblical books of Leviticus and Deuteronomy. For example, the laws specify that bread is kosher if it contains no forbidden fat and was not baked on the Sabbath. The laws also forbid foods from animals considered impure. These foods include pork and shellfish. In addition, only certain parts of such acceptable animals as cattle and sheep may be eaten.

The preparation of food according to Jewish dietary laws is called *koshering.* Animals must be killed by ritual slaughter, called *shehitah.* This method is designed to kill animals as quickly and painlessly as possible. Before the meat is cooked, it must be drained of blood by being soaked in cold water and then salted.

It is not kosher to eat certain foods together. For example, milk and other dairy products may not be eaten with meat. Jews who keep a kosher home must have one set of dishes and cooking utensils for meat meals and another set for meals that include dairy products.

Lawrence H. Schiffman

See also **Judaism** (Dietary laws).

Košice, *KAW shee TSAY* (pop. 237,206), is the chief industrial center of Slovakia. It lies on the Hornád River at

the foot of the Carpathian Mountains. For location, see **Slovakia** (map).

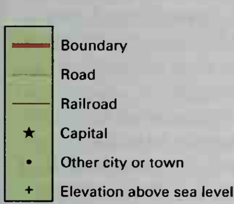
The center of Košice dates from medieval times. It includes the Gothic cathedral of St. Elizabeth, begun in the 1300's. Since World War II ended in 1945, sprawling industrial areas have sprung up around the old part of Košice. Construction of a huge steel-manufacturing plant attracted many rural people seeking jobs. Large blocks of apartment buildings were constructed to house the work force. Košice also has food-processing and textile industries and fertilizer plants.

In 1241, King Béla IV of Hungary chartered a settlement that then existed at Košice. The city was chiefly controlled by Hungary until the end of World War I in 1918. Then, it became part of Czechoslovakia. Hungary regained control during World War II. After the war, Košice was returned to Czechoslovakia. In 1993, the Czech Republic and Slovakia were created to replace Czechoslovakia. Vojtech Mastny

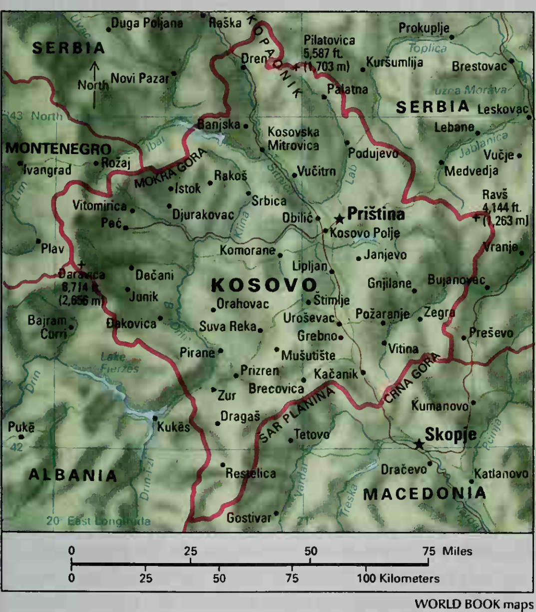
Kosovo, *KOH soh voh,* also spelled *Kosova,* is a province in southern Serbia, one of the republics of Yugoslavia. Most Kosovars are ethnic Albanians. Others include Serbs, Montenegrins, and Turks. In the late 1990's and early 2000's, Kosovo was torn by ethnic conflict.

Kosovo covers a mostly mountainous area of 4,203 square miles (10,887 square kilometers). Kosovo's natural resources include coal, lead, zinc, and many other minerals. Its capital is Priština. Before the fighting began,

Kosovo







WORLD BOOK maps

Kosovo had about 2 million people.

The Ottoman Empire ruled Kosovo from the mid-1400's until 1912, when the Serbian army took control. In 1918, it was made part of the Kingdom of the Serbs, Croats, and Slovenes, which later became Yugoslavia. The government limited the rights of the Albanians of Kosovo and drove thousands from their homes.

By the end of World War II in 1945, Yugoslavia had come under Communist control. In 1946, Yugoslavia became a federal state with six republics. Kosovo was first a self-governing region and later a self-governing province of Serbia. In 1989 and 1990, Serbia ended Kosovo's self-rule and deprived the Albanians of many rights. In 1992, Serbia and Montenegro formed a new Yugoslavia after the other four republics declared independence.

In 1997, the Kosovo Liberation Army (KLA), a rebel group seeking independence for Kosovo, attacked Serbian police units. In early 1998, Serbian forces attacked KLA forces in Kosovo. The North Atlantic Treaty Organization (NATO) tried to organize a cease-fire, but fighting continued. In December, Serbian forces launched a campaign against Kosovo's Albanians, driving many from their homes. In early 1999, NATO-sponsored peace talks led to a peace plan that representatives of Kosovo's Albanians approved but Serbian delegates rejected. In March, NATO began air strikes against military targets in Yugoslavia to force the government to accept the peace plan. But Serbian forces continued attacks on Kosovo. Hundreds of thousands of people fled. In June, Serbian generals finally agreed to withdraw their troops. NATO stopped the bombing and sent an international peacekeeping force to Kosovo. Many refugees returned, but tensions ran high between Serbs and Albanians in the province. Despite the presence of peacekeepers, the tension frequently erupted into violence.

In 2000, Serbs boycotted the first local elections since the end of the war, and the Yugoslav government refused to recognize the results. Many Serbs voted in national elections in 2001, and Serbs won 22 of the provincial assembly's 120 seats. In 2002, the assembly chose Albanian leader Ibrahim Rugova to serve as Kosovo's president. Sabrina P. Ramet

See also **Europe** (picture: Conflict among ethnic groups).

Kossuth, *KAHS ooth* or *KAW shut,* **Lajos,** *LAH yawsh* (1802-1894), a Hungarian national hero, led the unsuccessful Hungarian rebellion of 1848-1849.

In 1825, Kossuth entered parliament, where he led a movement for liberal government reform. When uprisings broke out in the Austrian Empire in 1848, the Hungarians, led by Kossuth, also revolted. They claimed the right to independence. But Kossuth refused to grant independence to minority groups in the Hungarian part of the empire. The minorities revolted against Hungarian rule. Russia helped the Austrians defeat Kossuth's army.

Kossuth fled to Turkey in 1849. There, he was held as a prisoner for a time. Afterwards, Kossuth toured the United States, where he was hailed as the *Hungarian George Washington.* He died in exile. Kossuth was born on Sept. 19, 1802, at Monok in northeastern Hungary. R. V. Burks

Kosygin, *kah SEE gihn,* **Aleksei Nikolaevich,** *ah lehk SAY nih kah LAH yuh vihch* (1904-1980), was premier of the Soviet Union from 1964 to 1980. Kosygin rose to power with Leonid I. Brezhnev, who became head of the

Communist Party and eventually gained the most power.

Kosygin was born in St. Petersburg. He fought on the Communist side in the civil war that broke out in Russia in 1918. Kosygin joined the Communist Party in 1927. He supervised an evacuation of Leningrad (the name of St. Petersburg from 1924 to 1991) after German troops began a siege of the city in 1941, during World War II. After the war ended in 1945, Kosygin held a variety of government posts and earned a reputation as an excellent administrator. In 1960, he was named first deputy premier. He served directly under Nikita S. Khrushchev, the party chief and premier.

When Khrushchev was forced to resign in 1964, Kosygin became premier and Brezhnev became head of the Communist Party. For several years, Brezhnev and Kosygin shared power almost equally. By the early 1970's, however, Brezhnev had become the country's most powerful leader. The two men continued to work together despite Kosygin's loss of power.

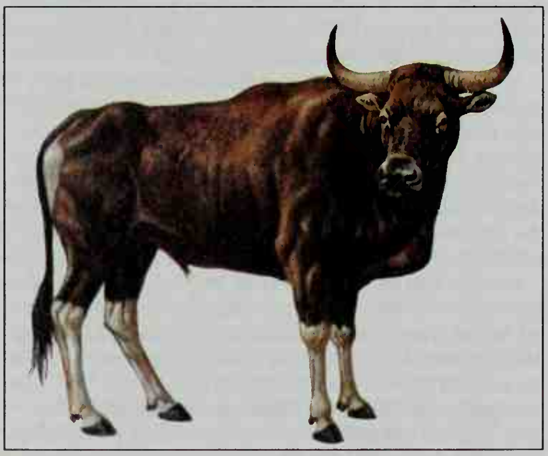
Kosygin was an expert on economics and industry. As premier, he worked to develop light industry in the Soviet Union. In 1965, he began a program to give factory managers greater control over their plants. His efforts met with resistance from the Communist establishment and were eventually stopped.

Kosygin resigned as premier in October 1980 because of poor health. He died in December. Stephen E. Hanson

See also **Brezhnev, Leonid I.**; **Trudeau, Pierre E.** (picture); **Union of Soviet Socialist Republics** (History).

Koufax, *KOH faks,* **Sandy** (1935-), became one of the greatest pitchers in the history of baseball. A left-hander, Koufax pitched four no-hit games, a major league record until Nolan Ryan pitched his fifth no-hitter in 1981. Koufax's fourth no-hitter, in 1965, was a perfect game. He struck out 382 batters in 1965, a National League record for one season. Koufax was voted the most valuable player in the National League in 1963 and the best pitcher in baseball in 1963, 1965, and 1966. He retired from baseball after the 1966 season due to arthritis in his pitching arm. He was elected to the National Baseball Hall of Fame in 1972.

Sanford Koufax was born in the Brooklyn section of New York City. He joined the Brooklyn Dodgers (now the Los Angeles Dodgers) in 1955. Dave Nightingale



WORLD BOOK illustration by John D. Dawson

The kouprey is a rare animal found in Southeast Asia.

Kouprey, *KOO pray,* is a type of wild cattle that lives in Cambodia, in Southeast Asia. It is also called the *Indochinese forest ox.* The kouprey was first named and described by scientists in 1937. It is a rare animal. An estimated 150 to 200 koupreys live in Southeast Asia.

The kouprey has small narrow ears, a large *dewlap* (loose fold of skin below the throat), long slender legs and hoofs, and a long tail. The kouprey is about 6 feet (1.8 meters) tall at the shoulder. *Bulls* (males) have large horns that curve backward, outward, and then forward. Bulls have blackish-brown hides and short, glossy hair. *Cows* (females) and *calves* (young kouprey) are gray. Little is known of the kouprey's habits. Thomas L. Poulson

Scientific classification. The kouprey is a member of the bovid family, Bovidae. It is *Bos sauveli.*

Koussevitzky, *KOO suh VIHT skee,* **Serge,** *sairzh* (1874-1951), was a Russian-born symphony orchestra conductor. From 1924 to 1949, Koussevitzky served as conductor of the Boston Symphony Orchestra. From 1936 to 1950, Koussevitzky was conductor and director of the Tanglewood Music Festival in Lenox, Massachusetts. In 1940, he helped found the Berkshire Music Center in Lenox, where he trained many conductors.

Koussevitzky was born in Vyshniy Volochek. After graduating from the Moscow Philharmonic Music School, he began a successful career as a double bass soloist. He made his conducting debut in Berlin in 1908. In 1909, he formed his own orchestra, which popularized the works of young Russian composers, such as Sergei Prokofiev, Sergei Rachmaninoff, and Igor Stravinsky. In 1922, Koussevitzky commissioned French composer Maurice Ravel to make his famous orchestration of the piano composition *Pictures at an Exhibition* by the Russian composer Modest Mussorgsky. John H. Baron

Krakatau, *krah kuh TOW,* is a volcano that lies in the Sunda Strait of Indonesia, between the islands of Sumatra and Java. It is also called Krakatoa (pronounced *krah kuh TOH uh).* Much of the volcano is underwater. But some of it projects above the water in the form of the islands Krakatau, Anak Krakatau, Lang, and Verlaten. For location, see **Indonesia** (map). The volcano rises 2,667 feet (813 meters) above sea level.

Krakatau is known for a destructive eruption in August 1883. The eruption killed about 36,000 people on nearby islands. It generated huge waves of up to 130 feet (40 meters) high. These waves, called *tsunamis,* washed ashore and caused most of the deaths. Other people were killed by scalding ash and other material shot out of the volcano. The eruption, heard nearly 3,000 miles (4,800 kilometers) away, had global effects. Volcanic dust in the atmosphere caused spectacular red sunsets over the next three years in the Northern Hemisphere. The volcanic dust may also have caused a worldwide drop in temperature that lasted five years.

The 1883 eruption destroyed much of Krakatau Island. It also caused one of the volcano's summits to fall below the water's surface, forming a submerged *caldera* (crater). Eruptions from 1927 to 1930 created Anak Krakatau in the caldera's center. Katharine V. Cashman

Kraków, *KRAK ow, KRAHK ow,* or *KRAY koh* (pop. 751,300), is a city that lies on the Vistula River in south-central Poland. For location, see **Poland** (political map).

Kraków has long served as a center of Polish cultural

life. The city is the home of Jagiellonian University, which was founded in 1364. Kraków also has many historic buildings and museums, including the Royal Castle. The Royal Castle, once the home of Poland's kings, has important collections of paintings and tapestries.

Poland's largest steel mill, the Nowa Huta plant, is located near Kraków. The city manufactures chemicals, drugs, leather, textiles, and processed foods.

Kraków had become an important crossroads of trade between Asia and Europe by the 700's. The city was the capital of Poland from 1038 to 1596. Austria took control of Kraków in 1795. The city became self-governing in 1815, but Austria seized it again in 1848. Kraków was rejoined with Poland in 1920. Janusz Bugajski

See also Galicia; Poland (picture: Poles relax).

Krebs, Sir Hans Adolf (1900-1981), a German biochemist working in England, shared the 1953 Nobel Prize for physiology or medicine. He received the award for his discovery in 1937 of the citric acid cycle in metabolism (see Metabolism). In this cycle, called the *Krebs cycle,* tissues use carbohydrates, fat, and protein to produce energy. In 1932, Krebs announced the discovery of how another cyclic process forms the compound urea in the liver. Krebs was born in Hildesheim, Germany. In 1958, Queen Elizabeth II knighted him.

Eric Howard Christianson

Kreisler, *KRYS luhr,* **Fritz** (1875-1962), ranks as one of the best-loved violinists of all time. He was also a composer. Kreisler's playing possessed a warm and natural tone quality. His expressiveness created an intimacy between himself and his audience that was unique among performing musicians. His recordings are studied for the way they demonstrate the effective shaping of musical phrases and the use of *rubato* (shortening and lengthening notes) that sounds natural and convincing.

Kreisler wrote many short compositions, including *Caprice Viennois, Tambourin Chinois, Liebesfreud, Liebesleid,* and *Schön Rosmarin.* Many other pieces were first published as the work of earlier composers. Later, Kreisler admitted that he had written the music "in the style" of those composers and had modestly denied authorship.

Kreisler was born in Vienna. He became a pupil at the Vienna Conservatory when he was 7 years old. Three years later, he entered the Paris Conservatory and studied there under Joseph Massart and Léo Delibes. He made his New York City debut when he was 13 and his Berlin debut at the age of 24, after a brief vacation from the violin to study medicine and art. In 1939, after Germany annexed Austria, Kreisler became a French citizen. Later, he settled in the United States and became a U.S. citizen in 1943. Stephen Clapp

Kremlin, *KREHM luhn,* is a fortified enclosure within a Russian city. The name comes from the Russian *kreml',* which means *fortress.* Many Russian cities have kremlins, but the most famous—known simply as the Kremlin—is the vast Kremlin of Moscow (see Moscow).

The Kremlin has a long history as a seat of government in Russia. Beginning in the 1100's, when Moscow was the center of one of many Russian states, its princes ruled from the Kremlin. The Kremlin was the center of czarist rule from the mid-1500's until 1712, when Peter the Great moved the Russian capital to St. Petersburg. Moscow and the Kremlin again became the seat of government in 1918, shortly after the Communists took control of Russia. The Kremlin remained the seat after the Communists formed the Soviet Union in 1922. With the breakup of the Soviet Union in 1991, the Kremlin became the seat of government of an independent Russia.

The Kremlin is a triangular enclosure extending almost $1\frac{1}{2}$ miles (2.4 kilometers) around. Views of the Kremlin can be breathtaking. Especially impressive are its gilded domes, its tapered gate towers, and the contrast between the threatening boundary wall and the richness and intricacy of the interior. The variety of styles and lavish decoration give an impression of powerful magnificence. Today, many Kremlin buildings serve as museums. The Kremlin's treasures include paintings, jewels, and crowns worn by Russia's czars.

The first Kremlin on the site was built in 1156. The present Kremlin walls have stood since the late 1400's, when Moscow became the most powerful Russian city. At that time, architects from northern Italy and from throughout Russia were called to work on the Kremlin. Italian architects built the Cathedral of the Assumption (1475-1479), the Granovitaya Palace (1487-1491), the Bell Tower of Ivan the Great (1505-1508), and the Cathedral of the Archangel Michael (1505-1509). The architects blended the Italian Renaissance classical style with more traditional Russian forms, like those used in the Kremlin's Cathedral of the Annunciation (1484-1489).

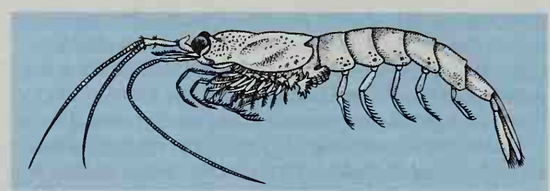
During the 1600's, the Kremlin's towers and buildings were enlarged and redecorated. The major Kremlin buildings of this period are the Terem Palace (1635-1636) and the Palace of the Patriarchs (1645-1655). In the 1700's and 1800's, construction continued but in the baroque and later neoclassical styles. Notable buildings from this period include the Arsenal (1702-1736), the Menshikov Tower (1705-1707), the Senate (1776-1787), and the Grand Kremlin Palace (1838-1849). Buildings added during the 1900's include the Presidium (1932-1934) and the Palace of Congresses (1960-1961). The great hall of the Palace of Congresses houses government meetings and performances of ballets and operas. William J. Hennessey

Kreps, Juanita Morris (1921-), a labor economist, was secretary of commerce from 1977 to 1979 under President Jimmy Carter. She was the first economist and first woman to head the Department of Commerce.

Juanita Morris was born in Lynch, Kentucky. She graduated from Berea College and earned master's and doctor's degrees in economics at Duke University. In 1944, she married Clifton H. Kreps, Jr., also an economist. From 1945 to 1955, she taught economics at colleges in California, New York, and Ohio. Kreps then taught at Duke until 1977 and also served as university vice president from 1973 to 1977. In 1979, she returned to Duke as professor emerita and vice president emerita.

In 1972, Kreps became the first woman on the board of directors of the New York Stock Exchange. She has served on the boards of several large corporations and on boards at Duke and the University of North Carolina.

Kreps is known for her outspokenness and her dedication to women's rights. As an economist, she has specialized in working women and the aged. Her books include *Lifetime Allocation of Work and Income: Essays in the Economics of Aging* (1971), *Sex in the Marketplace: American Women at Work* (1971), and *Women and the American Economy* (1976). June Sochen



WORLD BOOK illustration by Patricia Wynne

A krill is a small, shrimplike marine animal.

Krill are small, shrimplike animals that live in oceans throughout the world. Krill are *crustaceans,* a type of animal with a shell and jointed legs (see **Crustacean**). There are more than 90 species of krill. They range in length from $\frac{3}{8}$ inch to 6 inches (1 to 15 centimeters). Krill are abundant in *plankton,* the mass of tiny organisms that provides an important source of food for marine life (see **Plankton**). Blue, fin, and humpback whales eat vast amounts of krill and other planktonic organisms daily.

Many species of krill are surface dwellers, and others live at deeper levels or migrate up or down in the water. Animals that eat krill, including whales, seals, fish, and squids, follow along.

Young krill hatch from eggs as *larvae,* immature animals that do not resemble the adults. The larvae *molt* (shed their shell) as they grow. Krill larvae may go through as many as 10 molts before reaching adulthood.

As food, krill is rich in protein. However, various problems must be overcome before krill can provide a source of protein-rich food for people. For example, efficient harvesting methods must be developed to make large-scale krill fishing economically profitable. But more importantly, researchers need to determine whether such a large catch would jeopardize the food supply of other animals that eat krill. Jonathan Green

Scientific classification. Krill make up the order Euphausiacea in the subphylum Crustacea.

Kris Kringle. See **Santa Claus.**

Krishna is one of the most popular Hindu gods, worshiped throughout India. He is often shown with a flute in his hand and his consort, the milkmaid Radha, standing at his side. Hindus consider Krishna the eighth *avatar* (physical form) of the god Vishnu. They believe Krishna was born to rid the world of evil and to give delight to his many friends and lovers.

Krishna's story is told in many Indian writings, most notably in the epic the *Mahabharata* and in the *Bhagavad-Purana,* a story collection. In a portion of the *Mahabharata* called the *Bhagavad-Gita,* Krishna appears in human form as the wise chariot driver of the warrior hero Arjuna. Krishna reveals his divine nature and teaches Arjuna the way to achieve freedom while remaining active in the ordinary world. Krishna's life is described in the *Bhagavad-Purana.* The stories tell how Krishna grew up in a forest near Mathura, India; rid the earth of many demons; and then lived as a prince in what is now the western Indian city of Dwarka. David L. Haberman

See also **Bhagavad-Gita; Mahabharata; Vishnu.**

Kristallnacht, *KRIHS tahl nahkt,* is a name given to the night of Nov. 9-10, 1938, when Nazis attacked Jews and destroyed Jewish businesses and synagogues throughout Germany and Austria. *Kristallnacht* is a German word meaning *Crystal Night.* In English, the event is called the Night of Broken Glass because the Nazis shattered the windows of many Jewish-owned stores.

Kristallnacht followed years of discrimination against the Jews. Adolf Hitler had made *anti-Semitism* (prejudice against Jews) a government policy when he came to power in Germany in 1933. A few years after Kristallnacht, the Nazis began systematically murdering Jews in a campaign called the Holocaust (see **Holocaust**).

On Nov. 7, 1938, a young Polish Jew whose parents recently had been deported from Germany shot a German diplomat in Paris. The official died of his wounds on November 9. That evening, Nazi propaganda minister Joseph Goebbels made an anti-Semitic speech. The violence of Kristallnacht began after the speech and lasted for about 24 hours, destroying thousands of businesses and many synagogues in Germany and Austria. Nazi Party members attacked Jews on the streets and in their homes and killed dozens. The Nazis also arrested about 30,000 Jews. Aaron T. Kornblum

Kruger, *KROO guhr,* **Paulus** (1825-1904), was a South African statesman and soldier. He fiercely resisted the British in the Boer War of 1899 to 1902. He was a frontiersman, uneducated and simple in his ways, and deeply religious. He was called "Oom (Uncle) Paul."

Kruger was born Stephanus Johannes Paulus Kruger in the British Cape Colony. His family moved in the Great Trek, when many Dutch Boers traveled north into the interior of Africa to escape British rule. Kruger became famous as a hunter and fighter.

Kruger's family helped organize the Transvaal, the new Dutch state in South Africa. After much internal feuding and opposition from the British, the Transvaal obtained its freedom in 1881. Kruger served as president from 1883 to 1900. But the discovery of gold brought thousands of *Uitlanders* (foreigners), mostly British, to the republic. Serious differences arose, and war broke out with Britain in 1899 (see **Boer War**). Kruger tried unsuccessfully to get European aid, and he died in exile. Bruce Fetter

Kruger National Park in South Africa is one of the largest national parks in the world. It covers an area of 7,500 square miles (19,500 square kilometers) along the borders of Zimbabwe and Mozambique.

The landscape in Kruger National Park varies from fairly flat to gently rolling and includes scattered trees, dense brush, open grasslands, rocky areas, and six rivers. The park supports over 1,000 kinds of plants and a wide diversity of animals. Thousands of large plant-eating mammals, including antelopes, African buffaloes, elephants, giraffes, rhinoceroses, wildebeests, and zebras, roam the grounds. Crocodiles and hippopotamuses live in the rivers. The park is also home to cheetahs, hyenas, leopards, lions, and other large meat-eaters, as well as a number of kinds of snakes. The park ranks as one of the leading centers of wildlife research.

Kruger National Park is the oldest national park in South Africa. It opened in 1898 as the Sabie Game Reserve. The government of South Africa made the reserve a national park in 1926. It is named after Paulus Kruger, the last president of the South African Republic. The South African Republic covered the northern part of what is now South Africa and included the area that now makes up the park. Craig W. Allin

See also **National park** (Africa; picture).

Krupa, *KROO puh,* **Gene** (1909-1973), was the first jazz musician to popularize the drum as a solo instrument. He became a symbol of the excitement and enthusiasm of the swing era in jazz while playing with the Benny Goodman band from 1934 to 1938. Krupa was famous for his exceptional drum technique and for the image he presented to the public—his shock of black hair flying, his face and body in continuous motion.

Eugene Bertram Krupa was born in Chicago. In the 1920's, he played in dance bands but also worked in small jazz groups with Eddie Condon and other pioneers of early Chicago jazz. He went to New York City in 1928, where he played with Red Nichols and made records with Bix Beiderbecke. Krupa led his own bands from 1938 to 1943 and from 1944 to 1951. He toured with a quartet in the 1950's and 1960's. Frank Tirro

Krupp was the name of one of Germany's leading industrial families. The Krupp firm became one of the world's major manufacturers of steel, machinery, and weapons.

Friedrich Krupp founded the Krupp works in Essen in 1811. The firm struggled at first and faced competition from British products. But under Friedrich's son, Alfred, it slowly found a market for high-quality steel rolls, steel railway tires, and axles. In 1844, the Krupp works displayed its first musket barrels. The superior quality of Krupp steel made possible the production of outstanding artillery. This in turn led to the firm's close association with Prussia, the most powerful German state. Krupp cannons helped Prussia defeat Austria in 1866 and France in 1870, establishing the firm's reputation as the leading arms maker in Europe.

After the 1860's, weapons dominated Krupp production. Alfred Krupp expanded the factories in Essen, bought companies overseas, and introduced a welfare plan for workers. After 1900, the firm also built ships and diesel engines. Huge Krupp guns called "Big Berthas" helped Germany in World War I (1914-1918). The guns were named after Alfred's granddaughter. Her husband, Gustav, who took the Krupp name, became head of the firm in 1906.

After Germany's defeat in World War I, the Krupp works were dismantled. But Gustav Krupp rebuilt the firm in the 1920's. He secretly produced new arms, even though Germany had been forbidden to rearm. He also supported the rise of German dictator Adolf Hitler. Krupp works provided vital equipment for Germany's armed forces in World War II (1939-1945). After the war, the Allied victors seized the firm. Alfried Krupp, Gustav's son, was found guilty of war crimes. He regained control of the firm in 1951 and rebuilt it. Financial problems ended family control of the Krupp works in 1968. Today, the firm is publicly owned. Bruce E. Seely

Krupskaya, *KROOP skah yah,* **Nadezhda Konstantinovna,** *nah DEHZH dah KAWN stahn TEE nahv nah* (1869-1939), was a Russian revolutionary leader and the wife of V. I. Lenin. She helped her husband establish the Russian Communist Party in 1903.

Krupskaya was born in St. Petersburg. From 1891 to 1896, she taught night school for adults. Krupskaya and Lenin met in 1894 at a meeting of revolutionaries. They were married in 1898 in Siberia, where both had been exiled for various revolutionary activities. Through the years, Krupskaya aided Lenin with his writings and in the translation of other Communist works.

Krupskaya helped Lenin lead the Bolshevik Revolution of 1917, in which the Communists seized control of the Russian government. Krupskaya became people's commissioner of education in the new government and helped form the Soviet system of public education. She remained in the government after Lenin's death in 1924 and served on the Central Committee of the Communist Party. But she had little influence on Joseph Stalin, who headed the government. June Sochen

See also **Lenin, V. I.**

Krypton, *KRIHP tahn,* is a chemical element that makes up only about one-millionth of the earth's atmosphere. The British chemists Sir William Ramsay and Morris W. Travers discovered it in 1898. It was named *krypton* for the Greek word which means *the hidden one.* Most fluorescent lamps are filled with a mixture of krypton and argon. Krypton is also used in certain electronic tubes, and in luminous sign tubes where a greenish-yellow color is desired.

Krypton is a colorless, odorless, tasteless gas. It does not react readily with other substances and is classed as a noble gas (see **Noble gas**). Its symbol is Kr. The element has the atomic number 36, and an atomic weight of 83.80. It may be condensed to a liquid that boils at −152.3 °C and freezes at −156.6 °C. It is obtained in the manufacture of liquid air. Frank C. Andrews

See also **Ramsay, Sir William.**

Ku K'ai-chih. See Gu Kaizhi.

Ku Klux Klan, *KOO KLUHKS KLAN,* is a group of white secret societies who oppose the advancement of blacks, Jews, and other minority groups. The Ku Klux Klan, also called the KKK or the Klan, is active in the United States and in Canada. It often uses violence to achieve its aims. Klan members wear robes and hoods, and burn crosses at their outdoor meetings. They also burn crosses to frighten nonmembers.

The KKK has had four major periods of activity: (1) the mid-1860's to the early 1870's, (2) 1915 to 1944, (3) the late 1940's to the early 1970's, and (4) since the mid-1970's.

Birth of the Klan. The KKK was formed as a social club by a group of Confederate Army veterans in Pulaski, Tenn., in 1865 or 1866. Nathan Bedford Forrest, a former Confederate general, was the Klan's first leader, called the *Grand Wizard.* The group took its name from the Greek word *kyklos,* meaning *circle,* and the English word *clan.*

Klan members, who believed in the superiority of whites, soon began to terrorize blacks to keep them from voting or exercising the other rights they had gained during Reconstruction, the period following the end of the American Civil War in 1865. The Klan threatened, beat, and murdered many blacks and their white sympathizers in the South. To hide their identity, Klan terrorists wore robes and hoods, draped sheets over their horses, and rode at night. The KKK spread rapidly throughout the Southern United States and became known as the Invisible Empire. Its attacks helped drive blacks out of Southern political life.

In 1871, Congress passed the Force Bill, which gave the President the authority to use federal troops against the Klan. The KKK soon disappeared.

Early 1900's. In 1915, William J. Simmons, a former Methodist clergyman, organized a new Klan in Atlanta,



© Steve Silk, Picture Group

Ku Klux Klan members wear hoods and robes, and burn crosses at their evening outdoor meetings.

Georgia, as a patriotic, Protestant fraternal society. The Klan directed its activities against groups it considered un-American, including blacks, immigrants, Jews, and particularly Roman Catholics.

The KKK grew rapidly and by the mid-1920's had more than 2 million members throughout the country. Some Klan members burned crosses and whipped, tortured, and murdered people whose activities angered them, but most relied on peaceful means. By electing public officials, the Klan became a powerful political force throughout the South and also in many Northern and Western states, including Colorado, Indiana, Kansas, Maine, Ohio, and Oregon. However, public criticism of Klan violence and quarrels among Klan leaders weakened the organization. By the 1930's, only local Klan groups in the South remained strong. The organization died out again in 1944.

Mid-1900's. Samuel Green, an Atlanta physician, revived the Klan in 1946. Green died in 1949, and the Klan then split into many competing groups. However, all of the groups opposed racial integration.

Increased civil rights activities during the 1960's brought a new wave of Klan violence. Klan members were involved in many terrorist attacks, including the killing of three civil rights workers in Mississippi, and the bombing of a Birmingham, Alabama, church in which four black girls were killed. President Lyndon B. Johnson used the Federal Bureau of Investigation to probe the Klan. Some members were sent to prison, and membership fell to about 5,000 by the early 1970's.

Recent developments. Beginning in the mid-1970's, new leaders tried to give a more respectable image to competing Klan groups. Some accepted women as members and set up youth groups. The KKK especially appealed to whites who resented both special programs designed to help blacks and job competition from blacks and recent immigrants. The Klan largely abandoned its opposition to Roman Catholics.

Klan membership rose to about 10,000 by 1980. The KKK still attracted people with extreme views who often used violence. In 1979, Klan members and their supporters killed five anti-Klan demonstrators in Greensboro, North Carolina. Klan members murdered a black youth in Mobile, Alabama, in 1981. Since then, declining interest in the Klan and some prosecutions for illegal activities have reduced KKK membership to about 6,000. Most of these members live in the South. Robert P. Ingalls

See also **Force Bill; Reconstruction.**

Additional resources

Chalmers, David M. *Hooded Americanism: The History of the Ku Klux Klan.* 3rd ed. Duke Univ. Pr., 1987.
MacLean, Nancy K. *Behind the Mask of Chivalry: The Making of the Second Ku Klux Klan.* Oxford, 1994.

Kuala Lumpur, *KWAH luh loom POOR* (pop. 1,145,342), is the capital and largest city of Malaysia. It lies in the southern part of the Malay Peninsula. For location, see **Malaysia** (map).

Kuala Lumpur spreads out from the junction of the Klang and Gombak rivers, and lies along both banks of the rivers. The part of the city east of the two rivers has high-rise buildings, small shops, a busy outdoor market, and *mosques* (Muslim houses of worship). The high-rise buildings include the Petronas Towers, the world's tallest skyscrapers. The area west of the rivers includes modern government buildings, the National Museum, and the National Mosque. The city is the home of the University of Malaya, and of agricultural, technical, and teachers' training colleges. The National University is south of the city.

Most of Kuala Lumpur's oldest buildings were constructed after a fire destroyed the city in the 1880's. Their design is patterned after Moorish architecture. This style, which developed in northern Africa, features arches, domes, towers, and spiral staircases.

Kuala Lumpur attracts many tourists. Popular sites include the National Mosque, which has 48 domes. One of the domes is in the shape of an 18-pointed star. The points represent the 13 states of Malaysia and the 5 Pillars of Islam. The National Museum displays items from Malaysia's past. Other sites include Lake Gardens, which combines tropical forests and planned gardens; and Parliament House, where the national legislature meets. Near the city are the National Zoological Park, which is one of the most beautiful zoos in Southeast Asia; and Batu Caves, which feature huge caverns.

Malays and people of Chinese ancestry make up a majority of Kuala Lumpur's population. Many people of Asian Indian ancestry also live in the city.

The Malaysian national government employs many of Kuala Lumpur's people. The city is a center of banking, trade, and other commercial activities. Its industries include rubber, tin, and food processing; and the production of textiles and electronic products. International

airports in nearby Subang and Sepang serve Kuala Lumpur.

Kuala Lumpur was established in the late 1850's, after rich tin mines were discovered nearby. It grew quickly as a mining settlement and trading post. People from southern China and elsewhere moved there to work in the tin mines. Many of the Chinese later established businesses and gained great wealth there. Kuala Lumpur fell under British control in the 1870's.

In 1957, Kuala Lumpur became capital of the independent nation of Malaya. Malaya and nearby states united in 1963 and formed the nation of Malaysia. During the late 1900's, the city's population grew rapidly.

Harold Crouch

See also **Petronas Towers.**

Kublai Khan, *KOO bly KAHN* or *KOO bluh KAHN* (1216-1294), the grandson of Genghis Khan, founded the Mongol, or Yuan, dynasty that ruled China from 1279 to 1368. Kublai was the son of Tolui and brother of the fourth Great-Khan, Mangu. Kublai conquered Yunnan and Annam, and when Mangu died in 1259, Kublai became Great-Khan and ruler of the Mongol Empire. But his other brothers did not recognize his position. They disregarded Genghis Khan's warning to his heirs to remain united under one Great-Khan, and the unity of the All-Mongolia Empire soon ended.

Kublai established his capital in Cambaluc (now Beijing) in 1264. In 1276, his forces took Quinsay (now Hangzhou), the capital of the Song dynasty, and destroyed the Song fleet near Kuang-chou (now Guangzhou). By 1279, Kublai had completed the conquest of China. For the first time in history, a "barbarian" people had conquered all of China. Burma (now Myanmar), Cambodia, and other countries of Southeast Asia were forced to recognize the Yuan dynasty as their rulers. But Kublai's attempts to conquer Japan and Java failed. He also failed to gain control over the western half of the Mongol Empire. Under Kublai's rule, art and science flourished, trade expanded, and cultural relations were established with countries throughout the world. Richard L. Davis

See also **Genghis Khan; Mongol Empire** (Later empire); **Polo, Marco.**

Kubrick, *KOO brihk,* **Stanley** (1928-1999), was an American motion-picture director. He became noted for his pictures dealing with serious social themes. Kubrick aroused much controversy with his film *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb* (1964), a bitter but comic treatment of how the Soviet Union and the United States accidentally start a nuclear war. Kubrick's science fiction story *2001: A Space Odyssey* (1968) had stunning visual effects. His other major films included *Lolita* (1962), *A Clockwork Orange* (1971), *The Shining* (1980), and *Full Metal Jacket* (1987).

Kubrick was born in New York City. After directing the independent films *Killer's Kiss* (1955) and *The Killing* (1956), he impressed critics with *Paths of Glory* (1957).

Robert Sklar

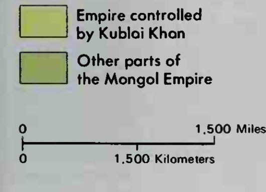
Kuchma, *KOOCH muh,* **Leonid Danylovich,** *LAY oh nihd dah NEE loh vihch* (1938-), was elected president of Ukraine in 1994. He defeated Leonid M. Kravchuk, who had become president in 1991, after Ukraine declared its independence from the Soviet Union. The Soviet Union collapsed in December 1991. From October 1992 to September 1993, Kuchma was prime minister in Kravchuk's Cabinet. He resigned that position after his efforts to introduce economic reforms were blocked by the parliament and received little support from Kravchuk. During the presidential campaign, Kuchma called for reestablishing the close economic ties that had existed between Ukraine and other former Soviet republics—especially Russia—as a way of improving the ailing Ukrainian economy.

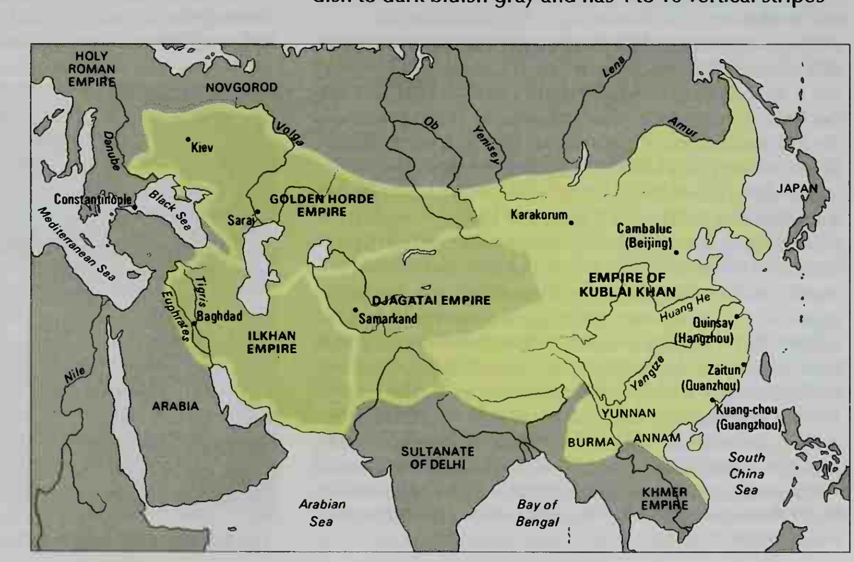
Kuchma was born in the Chernigov region of northern Ukraine. In 1960, he graduated from Dnepropetrovsk State University with a degree in mechanical engineering. He held various positions in the Soviet aerospace industry until becoming director of the country's largest missile factory in 1986. Jaroslaw Bilocerkowycz

Kudu, *KOO doo,* is a large antelope. Two kinds of kudus live in the grassy regions of southern and eastern Africa south of the Sahara. The *greater kudu* stands about 60 inches (150 centimeters) high at the shoulder, and weighs about 600 pounds (270 kilograms). It is reddish to dark bluish-gray and has 4 to 10 vertical stripes

Kublai Khan's Mongol Empire

Kublai Khan ruled the Mongol Empire in the late 1200's. The empire consisted of four parts—a large area in the eastern half and three smaller areas in the western half. Kublai Khan controlled the eastern part but had little power in the western areas.





WORLD BOOK map

on its sides. The male has spiral horns up to 5 feet (1.5 meters) long. The *lesser kudu* is about 40 inches (100 centimeters) high, weighs about 230 pounds (104 kilograms), and is dark yellowish-gray. Kudus eat grass and shrub sprouts. They live close to rivers in dry seasons. See also **Antelope**, with picture. Duane A. Schlitter

Scientific classification. Kudus are in the bovid family, Bovidae. Greater kudus are *Tragelaphus strepsiceros;* lesser kudus, *T. imberbis.*

Kudzu, *KOOD zoo,* is a fast-growing climbing vine common in the southern United States. It has wide leaves and fragrant, reddish-purple flowers. It can grow 60 feet (18 meters) high. Kudzu originated in Asia, where people eat its thick, starchy roots and make the stems into a fiber called *kohemp.* Kudzu was introduced into the United States in the late 1800's. For many years, it was grown as an ornamental porch vine and for livestock feed. In the 1930's, farmers in the South began to plant kudzu as ground cover to prevent soil erosion. The vine has many long roots that hold the soil. Bacteria that live on the roots take nitrogen from the air and help enrich the soil. But many farmers, foresters, and property owners consider kudzu a weed because it spreads rapidly and is difficult to control. Theodore R. Dudley

Scientific classification. The kudzu belongs to the pea family, Fabaceae or Leguminosae. It is *Pueraria lobata.*

Kuiper belt, *KY pur,* is a band of objects in the outer regions of our solar system. Kuiper belt objects (KBO's) probably consist of ice and rock. Roughly 100 billion of them may be larger than 0.6 mile (1 kilometer) in diameter. About 100,000 are more than 60 miles (100 kilometers) across. Scientists believe that KBO's are "building blocks" left over from the formation of the planets, which occurred about 4.6 billion years ago.

Most KBO's orbit the sun in circular and oval orbits beyond Neptune. Many KBO's have orbits similar to Pluto's. Some astronomers therefore believe that Pluto is not a planet but the largest known KBO. Sometimes, a KBO strays so close to Neptune that Neptune's gravity hurls it toward the sun. The KBO may turn into a comet by absorbing enough heat to vaporize some of its ice.

The Kuiper belt is also called the Edgeworth-Kuiper belt or the trans-Neptunian disk. An Irish scientist named Kenneth E. Edgeworth suggested in 1943 that the belt existed. The Dutch-born American astronomer Gerard P. Kuiper described it in more detail in 1951. In 1992, the English-born American astronomer David Jewitt and the Vietnamese-born astronomer Jane Luu made the first discovery of a KBO. Chadwick A. Trujillo

See also **Comet.**

Kukenaam Falls. See **Cuquenán Falls.**

Kumquat, *KUHM kwaht,* is a citrus fruit related to the mandarin. It looks like an oblong orange but is only about 1 to 2 inches (2.5 to 5 centimeters) long. The kumquat tree is a dwarf evergreen approximately 10 feet (3 meters) high, but many reach 15 feet (5 meters). It stands frost better than an orange tree. The kumquat is native to China and is widely cultivated in Japan. California, Florida, and the Gulf Coast also raise this fruit. The fruit is frequently eaten whole, or is candied and made into preserves, marmalade, and jelly. Wilfred F. Wardowski

Scientific classification. Kumquats are members of the rue family, Rutaceae. Their scientific names are *Fortunella japonica* and *F. margarita.*



Kung fu. See **Karate.**

Kurds are a people of a mountainous region of southwest Asia. Their homeland extends mainly over parts of Armenia, Iran, Iraq, Syria, and Turkey. The number of Kurds in the area has been estimated at about 25 million. Most Kurds are Sunni Muslims. They speak Kurdish, an Indo-European language related to Persian.

Many Kurds live in rural communities. They farm and herd sheep and goats. Farm crops include cotton, tobacco, and sugar beets. Other Kurds live in cities such as Mahabad, Sanandaj, and Bakhtaran in Iran; Arbil, Kirkuk, and As Sulaymaniyah in Iraq; and Diyarbakir and Van in Turkey. Since the late 1900's, many Kurds have migrated to large cities outside the Kurdish homeland, such as Istanbul and Ankara in Turkey.

Historically, the name *Kurdistan* (a Persian word meaning the *Land of the Kurds)* has been used for the area where the Kurds live. But today, only a small province in Iran is officially named Kurdistan.

The Kurds have never had their own government. Their desire for cultural and political independence has led to conflicts between them and the governments un-



WORLD BOOK map

The homeland of the Kurds is shown here in yellow.

der which they live. Efforts to establish self-government were crushed by the Turks during World War I (1914-1918), by the Iraqis in the 1970's and 1980's, and by the Iranian government after the Iranian revolution of 1979. Many Kurds were killed during these times. It has been estimated that several thousand Kurds were killed in 1988 when Iraq attacked Kurdish villages with bombs containing poison chemicals. Since 1984, Kurdish rebels in southeastern Turkey have waged a guerrilla military campaign against the Turkish government.

Kurds in Iraq also rebelled in March 1991, soon after Iraq's military forces were defeated in the Persian Gulf War. Iraq's army quickly put down the rebellion. Since the late 1990's, the Kurdistan Democratic Party and the Patriotic Union of Kurdistan, two Kurdish groups, have had limited autonomy in the safety zone in northern Iraq. Ali Banuazizi

See also **Iraq** (People; History); **Turkey** (People).

Kuril Islands, *KOO rihl,* is a chain of islands that stretches 775 miles (1,247 kilometers) from the Kamchatka Peninsula of Russia to Hokkaido Island of Japan (see **Russia** [terrain map]). The Japanese name for the islands is *Chishima* (Thousand Islands). The islands are part of Russia, but Japan claims several of them, including Iturup, Kunashir, Shikotan, and the Hanobi Islands.

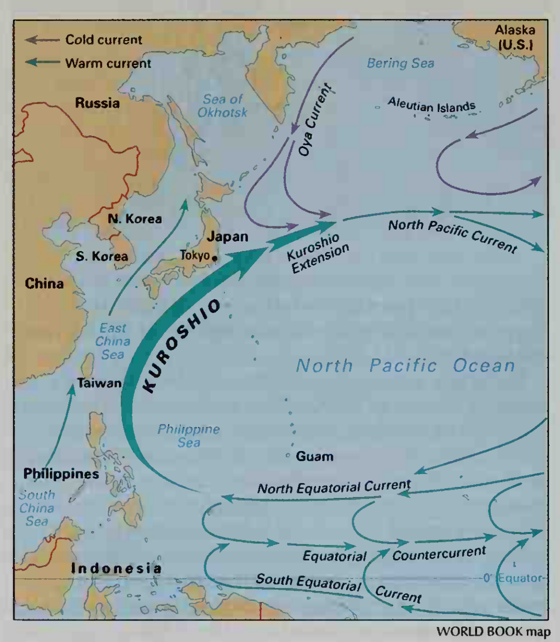
The chain includes 36 large islands, 20 smaller islands, and many large rocks. It has a total land area of 6,023 square miles (15,599 square kilometers). Most of the Kurils were formed by volcanoes built up from the ocean floor. Lofty mountains rise on the islands. The highest one is a volcano on Atlasova Island called Alaid. It rises 7,674 feet (2,339 meters) above sea level. The chain includes about 100 volcanoes, about 40 of which show signs of volcanic activity. Many otters and seals once lived on the Kurils, but have become scarce due to hunting. Bears, wolves, and some smaller animals still live in the mountains. Products of the Kurils include fish, furs, timber, iodine, sulfur, and *agar* (a substance from seaweed used as an additive in food and drugs).

In 1643, the Dutch became the first Europeans to reach the Kurils. At that time, the islands were inhabited by a people called the Ainu. Russia established a colony on the Kurils in 1795. In 1821, Russia claimed control of the northern and central islands. The Kurils came under Japanese rule in 1875, when Japan traded the southern half of Sakhalin Island to Russia for the Kurils. The Soviet Union—formed under Russia's leadership in 1922—took control of the Kurils in 1945, at the end of World War II. When the Soviet Union broke up in 1991, Russia gained control of the islands. But Japan still claims several islands in the southern part of the chain. The dispute over ownership has strained relations between Japan and Russia since 1945. Craig ZumBrunnen

Kurosawa, *koo roh sah wah,* **Akira,** *ah kee rah* (1910-1998), became the first Japanese motion-picture director to gain worldwide fame. He established his international reputation with *Rashomon* (1950). This film tells the story of a crime seen from four points of view. *Ikiru* (*To Live,* 1952) movingly illustrates the Christian maxim, "He who will lose his life shall find it." In contrast, *Stray Dogs* (1949) is a tough crime melodrama.

Kurosawa's other major films include his series on Japanese warriors called *samurai—Seven Samurai* (1954), *Yojimbo* (1961), and *Sanjuro* (1962). He also directed Japanese adaptations of the Shakespearean tragedies *Macbeth* (*Throne of Blood,* 1957) and *King Lear* (*Ran,* 1985). Many of these movies seem to say that by the time people are wise enough to understand where their true interests lie, they are caught in a tangle of events created by their own passions. Kurosawa described his career in *Something Like an Autobiography* (1982). He was born in Tokyo on March 23, 1910. Gene D. Phillips

Kuroshio is a warm, dark-colored current in the western Pacific Ocean. *Kuroshio* is Japanese for *black current.* The Kuroshio is also called the Japan Current. It has a warming effect on the climate for much of its course. It begins in the Philippine Sea, where it separates from the North Equatorial Current. It passes Taiwan and heads northeast toward Japan. Near Japan, the stream turns east, becoming the Kuroshio Extension. This current meets the cold Oyashio, also called the Kuril Current.



WORLD BOOK map

The Kuroshio flows north from the Philippine Sea to the coast of Japan. It then turns east and becomes the Kuroshio Extension. The Kuroshio is also called the Japan Current.

Together, they merge into the North Pacific Current.

The Kuroshio resembles the Gulf Stream, a current in the Atlantic Ocean. Each current runs northward along the western side of its ocean. Both streams are warm, strong, narrow, and fast (see **Gulf Stream**). Near Japan, the Kuroshio is about 90 miles (150 kilometers) wide and can reach speeds of up to 5 knots (nautical miles per hour). Mark A. Cane

Kush, also known as Meroe, was a kingdom along the Nile River in what is now northern Sudan. This region of Africa was called Nubia (see **Nubia**). Kush developed after 1000 B.C., at the end of a period of Egyptian control in Nubia. Between 750 and 660 B.C., the rulers of Kush conquered Egypt from their center at Napata. They became an Egyptian *dynasty* (family of rulers) known as Dynasty XXV. Kush eventually surrendered control of Egypt because of struggles with Assyrian invaders and Egyp-

The Kingdom of Kush about 500 B.C.

Kush, shown in yellow, occupied an area along the Nile River in what is now northern Sudan. Present-day boundaries are shown as gray lines.

WORLD BOOK map



tian forces opposed to Kushite rule. However, Kush continued to prosper as an independent state south of Egypt. It was centered at Napata until about 250 B.C., and at Meroe until A.D. 350.

Culturally, Kush was a mixture of local Nubian and Egyptian practices. The Kushites built pyramids centuries after the Egyptian pyramids were constructed. Kushite pyramids were smaller than those in Egypt and were also shaped differently. Most Kushites spoke their own language, which was different from Egyptian. They also developed their own alphabet based on Egyptian writing and symbols. Kushites worshiped Nubian gods as well as ones borrowed from the Egyptians. Today, many of Kush's pyramids and temples, as well as the ruins of settlements, still stand.

Kush's wealth came from local natural resources and from trade. The region had iron, copper, and gold mines, and items made from these metals were exported. Kush also gathered such goods as ivory, ebony, and animal skins from other African states for trade to Egypt and other parts of the ancient world. In return, Kushites received glassware, fine metalwork, jewelry, and other manufactured goods. Kevin C. MacDonald

See also **Africa** (picture: The civilization of Kush).

Kushan Empire, *ku SHAHN,* flourished in what is now Pakistan, Afghanistan, and northern India from about A.D. 50 to the mid-200's. The Kushan were a central Asian people, originally from northwest of China, who had settled in five kingdoms in what is now Afghanistan. Kujala Kadphises founded the empire by uniting these kingdoms. His successors extended the Kushan Empire into the Indus and Ganges valleys. The most famous Kushan ruler was Kanishka (see **Kanishka**).

The Kushan Empire linked central Asian, Chinese, Indian, and Persian cultures and trade. Kushan emperors opened and protected the Silk Road, a major trade route for caravans carrying silk and other luxury goods from China to India and the Middle East. Cloth, spices, and medicines left Indian ports in ships bound for the Roman Empire. Rome sent back gold coins, Greek wine, and slaves. See **Silk Road**.

The Kushan Empire adopted Buddhism as its official religion. Buddhist missionaries spread this religion, which started in India, throughout much of Asia. The first stone images of Buddha were created by sculptors in the towns of Gandhara and Mathura. The Gandhara artists created their Buddhas by combining Greek, Roman, and Asian art forms. Michael H. Fisher

Kutenai Indians, *KOO tuh nay,* also spelled *Kootenai,* formed a tribe in what is now southeastern British Columbia, northwestern Montana, and northern Idaho. Their way of life somewhat resembled that of the Plains Indians, though they lived in a mountainous region and are considered mountain Indians. The Kutenai usually lived near lakes or rivers. Kutenai bands, each made up of a few families, existed by hunting, fishing, and collecting wild plants. They built shelters of skins and rushes, and traveled in dugouts and bark canoes. The Kutenai maintained few class distinctions. But the *shamans* (medicine men and women) once exercised great power and leadership within the tribe. Many Kutenai became Roman Catholics in the 1800's. They acquired horses and took up farming, lumbering, and cattle raising. The Kutenai Indians now live on reservations in Montana, Idaho, and British Columbia. Allen P. Slickpoo, Sr.

Kuvasz, *KOO vahs,* is a large, powerful dog. The kuvasz was chiefly developed in Hungary. The name comes from a Turkish word that means *armed guard of the nobility.* The kuvasz has a broad, muscular body but walks with a light-footed gait. The dog's pure-white coat grows long on the neck and the backs of the hind legs.



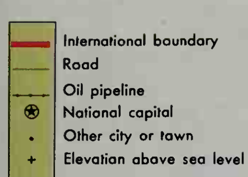
WORLD BOOK photo by E. F. Hoppe

The kuvasz

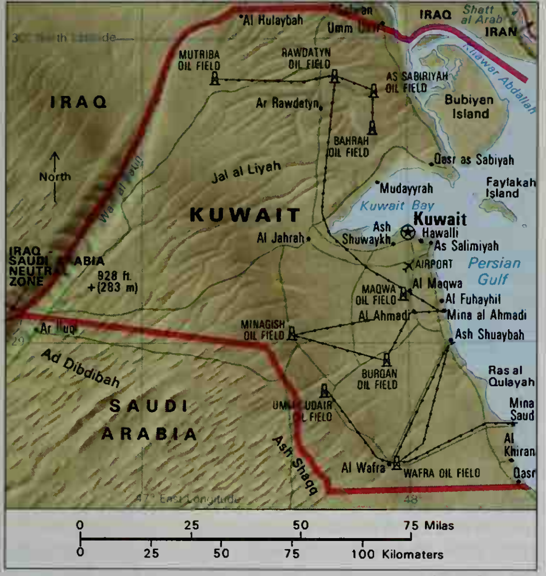
The male kuvasz stands about 29 inches (74 centimeters) high at the shoulders and weighs as much as 115 pounds (52 kilograms). The female is about 27 inches (69 centimeters) high and weighs up to 90 pounds (41 kilograms). Critically reviewed by the Kuvasz Club of America

Kuwait, *koo WYT* or *koo WAYT,* is a small Arab country in southwestern Asia, at the north end of the Persian

Kuwait







WORLD BOOK maps

Gulf. It is bordered by Iraq and Saudi Arabia. This desert land is one of the world's leading petroleum producers. It has almost one-tenth of the world's known reserves.

A poor country until 1946, Kuwait is now one of the richest countries in the world. The amazing change that has taken place there results almost entirely from one thing—oil. With wealth gained by selling oil, Kuwait's rulers turned desert wilderness into a prosperous welfare state. Kuwait is one of the world's wealthiest nations in terms of national income per person. It has free primary and secondary education, free health and social services, and no income tax.

The city of Kuwait, the nation's capital, is the center of a large urban area that has about two-thirds of the country's people. Kuwait gained independence from Britain in 1961. In 1990, an invasion of Kuwait by Iraq triggered the Persian Gulf War. For details, see the *History* section of this article.

Facts in brief

Capital: Kuwait.
Official language: Arabic.
Official name: Dowlat al Kuwait (State of Kuwait).
Area: 6,880 mi² (17,818 km²), including offshore islands. *Greatest distances*—east-west, 95 mi (153 km); north-south, 90 mi (145 km). *Coastline*—120 mi (193 km).
Population: *Estimated 2002 population*—2,062,000; density, 300 per mi² (116 per km²); distribution, 100 percent urban. *1995 census*—1,575,983.
Chief products: Petroleum, natural gas.
Flag: Horizontal green, white, and red stripes join a black, vertical stripe at the flagstaff. See Flag (picture: Flags of Asia and the Pacific).
Money: *Basic unit*—dinar. One thousand fils equal one dinar.

Government. Kuwait is governed by a ruler called an *emir,* or *amir.* The emir appoints the prime minister. The prime minister chooses the ministers, who the emir confirms. A 50-member National Assembly helps make the laws.

People. Most people of Kuwait are Arabs and Muslims (followers of Islam). Arabic is the official language, and Islam is the state religion. But laws forbid discrimination based on language or religion.

Kuwait's population has grown rapidly since the discovery of oil beneath the desert of Kuwait in the 1930's. Immigration has accounted for most of the increase. Palestinians make up Kuwait's largest group from other lands. But many Palestinians left following the Iraqi invasion in 1990. Many others were expelled after Kuwait's liberation in 1991. Other major non-Kuwaiti groups in Kuwait include Egyptians, Asian Indians, and Iranians.

Relatively few Kuwaiti children attended school until the 1950's, when oil wealth enabled the government to begin building many schools. Today, more than 85 percent of school-age children in Kuwait attend school. Special schools provide education for disabled individuals, and for adults who want to learn to read and write. The University of Kuwait opened in 1966.

Until the mid-1900's, few Kuwaiti women held a job outside the home or received much education. Today, increasing numbers of women work in business offices and earn college degrees. However, women do not have the right to vote.

Land and climate. Most of Kuwait consists of waterless desert. The country includes several islands. Faylakah, the most important island, lies about 12 miles (19 kilometers) off the coast. Bubiyan, the largest island, is uninhabited. The city of Kuwait lies on the southern side of Kuwait Bay, which is an excellent harbor.

Kuwait has no rivers or lakes. Before 1950, it had few known sources of fresh water apart from the scanty rainfall. Ships carried drinking water to Kuwait from Iraq. Most of Kuwait's wells yielded only *brackish* (salty) water. In 1950, engineers began making fresh water by distilling seawater and mixing it with well water. Today, distillation provides most of the fresh water in Kuwait. A large underground source of fresh water discovered in 1960 also increased the freshwater supply.

From April to September, Kuwait is very hot. Temperatures often exceed 120 °F (49 °C) in the shade. But the climate is not extremely unpleasant until August and September, when the humidity is relatively high. In January, the coldest month, temperatures average between 50 and 60 °F (10 and 16 °C). Besides desert scrub, Kuwait has little vegetation most of the year. Some grass grows from October to March, when an average of 2 to 6 inches (5 to 15 centimeters) of rain falls.

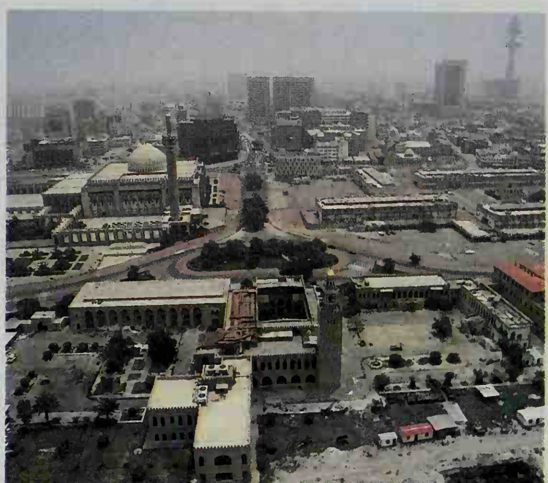
Economy. The petroleum industry is the major economic activity in Kuwait. The government owns almost all of the industry. The sale of oil to other nations by the government created most of Kuwait's wealth. The government also receives large amounts of money from earnings on investments it has made in the United States

and other countries. But the high cost of the Iraqi invasion and Kuwait's recovery after the Persian Gulf War severely reduced the country's financial reserves. Kuwait is a member of the Organization of Petroleum Exporting Countries (OPEC). Natural gas, produced in conjunction with oil, is Kuwait's second most important product.

Kuwait has little agriculture and imports most of its food. The relatively few farms raise camels, goats, and sheep, and grow dates, tomatoes, and a few other crops. Kuwait has a small fishing fleet, and it exports shrimp.

The government uses much of its income from oil to support Kuwait's welfare system and modernize the country. But the oil industry does not provide many jobs. Most of the work is done by machinery.

Kuwait is trying to provide more jobs by promoting the growth of economic activities other than oil production. Government plans call for the development of new industries that manufacture products from petroleum. The government also plans to build more houses, oil refineries, ships for transporting oil, electric power stations, and distillation plants. It is working to increase agriculture by turning part of the desert into fertile land through irrigation. Scientists are also attempting to produce crops by *hydroponic farming.* Instead of using fertile soil, they are trying to grow crops in trays of sand fed with water and plant foods.



© Stephane Compoint, Sygma

The city of Kuwait, the nation's capital, lay shrouded in smoke from oil well fires after the Persian Gulf War ended in 1991. Iraqis set fire to hundreds of wells in Kuwait during the war.

Today, non-Kuwaiti people hold the majority of the jobs in Kuwait. Many Kuwaitis lack the education and skills needed to perform available jobs, and they depend on welfare for a living. The Kuwaiti government believes that its emphasis on education and job training will enable more Kuwaitis to handle jobs in the future.

Kuwait has an excellent system of paved roads. Air service links Kuwait with other countries.

History. Kuwait had few settled inhabitants before 1700. About 1710, some members of the Arab Anaza tribal confederation settled on the southern shore of Kuwait Bay, where they found fresh water. These people built a port that later became the city of Kuwait. Between 1756 and 1762, the group elected the head of the Al-Sabah family to rule them as Sabah I.

In 1775, the British made Kuwait the starting point of their desert mail service to Aleppo, Syria. This route formed part of a system that carried goods and messages from India to England. Over the years, British interest in Kuwait grew. In 1899, Britain became responsible for Kuwait's defense.

In 1934, Kuwait's ruler granted a *concession* to allow the Kuwait Oil Company, a joint American-British enterprise, to drill for oil. Drilling began in 1936. It showed that vast quantities of petroleum lay under the desert. Kuwait became a major petroleum exporter after World War II ended in 1945. It soon changed from a poor land to a wealthy one as a result of oil sales. Kuwait joined the Arab League after it became independent in 1961. It joined the United Nations in 1963.

Kuwait sent troops to Egypt during the Middle East crisis in June 1967. But these troops did not take part in the Arab-Israeli War. For about two months, Kuwait cut off its oil shipments to the United States and other Western countries. Kuwait also agreed to pay Egypt and Jordan a total of $132 million annually to help their economies recover after the war.

A small number of Kuwaiti troops took part in the 1973 Arab-Israeli War. In October 1973, Kuwait and other Arab oil-exporting nations stopped shipments of oil to the United States and the Netherlands. They also reduced shipments to other countries that supported Israel. In March 1974, full shipments were renewed. In 1975, Kuwait's government *nationalized* (took control of) the Kuwait Oil Company. The government now has almost complete control of the oil industry.

In 1976, Kuwait's prime minister denounced the National Assembly for blocking legislation. Kuwait's emir then dissolved the National Assembly. A new National Assembly was elected in 1981, but the emir dissolved it and suspended the constitution in 1986.

In the 1980's, much fighting in a war between Iran and Iraq centered in the Persian Gulf area. In 1986, Iran began attacks on Kuwaiti oil tankers because of Kuwait's financial aid to, and other support for, Iraq. In 1987, Kuwait asked the Soviet Union and the United States to help provide safety for its shipping. The Soviet Union leased to Kuwait vessels flying the Soviet flag. Several Kuwaiti ships were reregistered as U.S. vessels and flew U.S. flags. U.S. warships began escorting these vessels in the Persian Gulf to protect them from attacks. Some clashes between the U.S. forces and Iranians occurred. In August 1988, Iran and Iraq agreed to a cease-fire in their war (see Iran [Iran today]).

In August 1990, Iraqi forces invaded and occupied Kuwait. Iraq's leader, Saddam Hussein, accused Kuwait of violating oil production limits set by OPEC, thus lowering the price of oil. Hussein claimed that Kuwait was legally a part of Iraq, and he announced that his country had annexed it as an Iraqi province. The Iraqi forces in Kuwait killed and tortured many people and stole or destroyed much property. They set fire to hundreds of oil wells. The United Nations Security Council declared Iraq's annexation of Kuwait null and void.

Some people believed that Iraq would next invade oil-rich Saudi Arabia. The United States and many other



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Kuwaiti citizens celebrated the liberation of their country after Allied forces drove Iraqi forces from Kuwait in February 1991. The Iraqis had invaded and occupied Kuwait in August 1990.

nations sent forces to defend Saudi Arabia. These nations, and Saudi Arabia and Kuwait, formed an allied military coalition. In November 1990, the United Nations approved the use of military force to remove Iraqi forces from Kuwait if they had not left by Jan. 15, 1991. Iraq refused to leave, and war broke out between the allied forces and Iraq. The allied forces bombed Iraqi military targets in Kuwait. In February, allied land forces moved into Kuwait. They quickly defeated the occupying Iraqi forces. Most of the Iraqis who were not killed or taken prisoner fled from Kuwait. See **Persian Gulf War; United Nations** (The Persian Gulf War).

In October 1992, Kuwaitis elected a new 50-member National Assembly. In addition, the constitution was reinstated. Malcolm C. Peck

See also **Arab League; Gulf Cooperation Council; Organization of Petroleum Exporting Countries.**

Kuwait, *koo WYT* or *koo WAYT* (pop. 44,335), is the capital and chief port of the country of Kuwait. It lies on Kuwait Bay, a natural harbor in the northwest corner of the Persian Gulf (see **Kuwait** [map]). Kuwait is the center of a large urban area that has about two-thirds of the country's people. It is a modern city whose economy is supported by the country's enormous petroleum wealth. Residential areas lie between ringlike roads that form a grid around the city center. Many of the city's Kuwaiti citizens live in attractive, villa-style homes. Most non-Kuwaitis live in modest apartments.

Modern Kuwait was founded in the 1700's by the Utub (sometimes spelled Utab), a branch of the Anaza tribal confederation of north-central Arabia. Kuwait became an important port and shipbuilding center in the 1700's. After World War II ended in 1945, the country of Kuwait became an important producer of petroleum. Wealth earned from petroleum led to the growth and modernization of the city. Most manufacturing in the city involves petroleum-related products. From August 1990 to February 1991, troops from Iraq occupied the city and the rest of Kuwait. The Iraqis killed many people and greatly damaged the city. The damaged areas were restored after the occupation ended. See **Kuwait** (country [History]). Malcolm C. Peck

Kuybyshev. See Samara.

Kuznets, Simon (1901-1985), was an American economist who won the 1971 Nobel Prize in economics. He did important studies of national income, economic cycles, and modern economic growth. Kuznets laid the foundation for modern national income accounting in his *National Income and Its Composition, 1919-1938* (1941) and other works. He also found evidence of recurring cycles of economic growth that are 15 to 20 years long. These are called *long swings* or *Kuznets cycles.*

Kuznets also studied capital formation, population change, industrial structure, and how invention, innovation, and scientific advancement lead to economic growth. He also identified a pattern called the *inverted U hypothesis* or *Kuznets hypothesis.* This pattern consists of a trend away from, and then toward, equal distribution of income over the course of economic growth.

Kuznets was born in Kharkov, Ukraine (then part of the Russian Empire), but spent all of his adult life in the United States. He taught at the University of Pennsylvania, Johns Hopkins University, and Harvard University.
Barry W. Poulson

Kwakiutl Indians, *KWAH kee OO tuhl,* live on the northwest coast of North America. They are famous for elaborate feasts known as *potlatches.* The Kwakiutl hold these ceremonies to celebrate weddings and other social events. Chiefs sponsor potlatches, at which huge quantities of valuable property are displayed, given away to guests, and occasionally destroyed. Acceptance of the gifts symbolizes recognition of the prestige and social rank of the sponsoring chief and the chief's family. The Kwakiutl are also called the Kwakwaka'wakw (pronounced *KWAH kwah kyuh WAH kwah*).

Traditionally, the Kwakiutl made their living by fishing, by hunting, and by gathering clams, berries, seaweed, and other foods. They lived in villages of plank houses along beaches on what are now Vancouver Island and the mainland of British Columbia in Canada. Many family groups placed totem poles in front of their homes and elsewhere to signify their ancestry and social rank. Today, over 6,000 Kwakiutl live mainly on small reserves in their traditional homeland or nearby in Canadian and U.S. cities. Robert S. Grumet

Kwanzaa, *KWAHN zuh,* is an Afro-American holiday based on the traditional African festival of the harvest of the first crops. It begins on December 26 and lasts for seven days. The word *Kwanzaa,* sometimes spelled *Kwanza,* comes from a phrase which means *first fruits* in Swahili, an East African language.

The holiday was developed in 1966 in the United States by Maulana Karenga, a professor of Pan-African studies and black cultural leader. It combines traditional African practices with Afro-American aspirations and ideals. The holiday centers around the *Nguzo Saba,* seven principles of black culture that were developed by Karenga. These principles are *Umoja* (unity), *Kujichagulia* (self-determination), *Ujima* (collective work and responsibility), *Ujamaa* (cooperative economics), *Nia* (purpose), *Kuumba* (creativity), and *Imani* (faith).

Each day of Kwanzaa is dedicated to one of the seven principles. In the evening, family members light one of

the seven candles in a *kinara* (candleholder) and discuss the principle for the day. Members of many families exchange gifts, some of which are homemade. Near the end of the holiday, the community gathers for a feast called *karamu*. A typical karamu features traditional African food, ceremonies honoring the ancestors, assessments of the old year and commitments for the new, performances, music, and dancing. Maulana Karenga

Kwashiorkor, *KWAH shee AWR kawr,* is a disease caused by a severe lack of *complete protein*. All protein consists of building blocks called *amino acids*. But only complete protein has the nine amino acids that the body either cannot make, or cannot make in sufficient amounts. Kwashiorkor occurs mostly in developing nations whose people lack foods high enough in complete protein. It generally strikes children from 1 to 3 years old, and it can be fatal.

Young children need large amounts of complete protein for growth and various body functions. Many mothers continue breast-feeding their babies for two years in addition to feeding them solid foods. Breast milk provides a complete-protein supplement. But the amount is generally small and protects against deficiency only if the basic diet is reasonably adequate. A nursing mother who becomes pregnant generally stops breast-feeding. In many cases, the child then eats only starchy, low-protein foods and kwashiorkor is likely to occur.

Kwashiorkor stops or slows down a baby's growth. In severe cases, the muscles waste away, and the skin swells with body fluids. The child becomes extremely listless and resents any kind of disturbance, even feeding. As the disease progresses, the skin loses its natural color and may develop dark patches. Kwashiorkor also damages the liver and the small intestine, and it may cause black hair to turn reddish-brown. Many victims suffer anemia and show some vitamin deficiencies.

Kwashiorkor is fatal unless the victim receives protein. Treatment generally consists of supplementing the diet with dried skim milk and other high-protein foods. Vitamin and mineral supplements may also be necessary. Antibiotics are often given because kwashiorkor lowers a child's resistance to infection. Many children who survive kwashiorkor do not reach their potential physical growth. Richard A. Ahrens

Kyanite, *KY uh nyt,* is a pale-blue mineral commonly found in metamorphic rocks (see **Metamorphic rock**). The word is also spelled *cyanite* (pronounced *SY uh nyt).*

The chemical formula of kyanite is Al_2SiO_5. The mineral is formed under high temperatures and pressures. It occurs as long flat bands of crystals, and its surface varies in hardness. Kyanite is found in Australia, East Africa, India, and the United States.

Kyanite is used as an insulating substance because it is heat resistant. Some ovens used to manufacture glass and ceramics are lined with kyanite. Transparent kyanite is cut into gemstones for jewelry. John C. Butler

Kyd, *kihd,* **Thomas** (1558-1594), was an English playwright who greatly influenced the development of Elizabethan drama. He wrote the most popular English tragedy of the 1500's, *The Spanish Tragedy* (1580's).

In *The Spanish Tragedy,* Kyd created a new style of drama by blending elements of classical Roman tragedy with the lively but crude popular drama of his day. He based this form on that of the *revenge play,* which was developed by Seneca, a Roman philosopher and dramatist. In a revenge play, a main character seeks vengeance for a crime. *The Spanish Tragedy* is the story of a nobleman's revenge for his murdered son. In the drama, Kyd also used such classical elements as a ghost, much bloodshed and violence, and formal poetic language. Kyd was born in London. Jack D. Durant

See also **Drama** (Elizabethan playwrights).

Kyoto, *kee OH toh* or *KYAW taw* (pop. 1,467,705), is one of Japan's largest cities. It lies on Honshu Island, about 27 miles (43 kilometers) inland from the industrial center of Osaka (see **Japan** [political map]). Kyoto was Japan's capital from A.D. 794 to 1868, and it became the home of many of the country's cultural treasures.

Kyoto is an important religious center, with many Buddhist temples and Shinto shrines housing priceless works of art. One of the most beautiful sights, the Golden Pavilion, was built in 1397 and rebuilt in the 1950's. Deputies of the Tokugawa shoguns lived in Nijo Castle from the 1600's to the 1800's. The Imperial Palace, first erected in A.D. 794, was rebuilt in 1855.

The city has many institutions of higher education, including the government-controlled Kyoto University, and Doshisha University, a Protestant school.

Workers in small factories produce exquisite textile, ceramic, lacquer, and cloisonné goods. Weaving and dyeing silks is an important industry.

Emperor Kammu established Japan's capital at Kyoto in A.D. 794. He called it *Heian-kyo,* meaning *capital of peace and tranquillity.* Many Japanese called it *Miyako,* meaning *imperial city,* or *Kyoto,* meaning *capital city.* Tokyo replaced Kyoto as the capital in 1868. Kyoto was the only major Japanese city which escaped bombing during World War II (1939-1945). Kenneth B. Pyle

Kyphosis. See **Hunchback.**

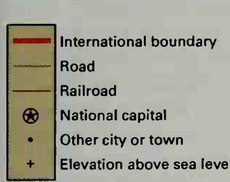
Kyrgyzstan, *kihr guh STAHN* or *KIHR guh STAHN,* is a mountainous country in central Asia. Bishkek is its capital and largest city. The official language is Kyrgyz. Kyrgyzstan became an independent country in 1991, after about 70 years as part of the Soviet Union.

Government. A president serves as head of state and is Kyrgyzstan's most powerful government official. The people elect the president to a five-year term. A prime minister and a cabinet of ministers run the daily operations of the government. The president appoints the prime minister, who then appoints the cabinet of ministers. A parliament called the Supreme Council makes Kyrgyzstan's laws. It consists of the Legislative Assembly, which has 35 members, and the Assembly of People's Representation, which has 70 members. Council members are elected by the people to five-year terms. Kyrgyzstan's main units of local government are regions and districts. Kyrgyzstan's highest court is the Supreme Court. There are also regional and local courts. All judges are elected to five-year terms.

People. Slightly more than half of Kyrgyzstan's people belong to the Kyrgyz ethnic group. They speak Kyrgyz, a Turkic language. Most of the ethnic Kyrgyz live in rural areas and live by herding and farming. Ethnic Russians make up about a fifth of the population. They speak Russian, live mainly in urban areas, and hold most of the country's industrial and technical jobs. Other ethnic groups include Uzbeks, Ukrainians, and Germans. All of the Kyrgyz people and the Uzbeks are Muslims. Most of

Kyrgyzstan





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the people of other ethnic groups are Christians.

Among the ethnic Kyrgyz, tribal organizations and large kinship units called *clans* play important roles in social customs. Each tribe consists of a number of clans. A Kyrgyz clan includes all people who are descended from a common ancestor through their father's side of the family. Senior clan members function as community leaders. Traditionally, tribal leaders have been the most respected members of Kyrgyz society. They hold most of the country's regional and national government offices.

Kyrgyz social life is centered around the family. Members of an extended family live together in one household. The household might include parents, children, married sons and their children, and other relatives. The Kyrgyz tend to marry people in their own clan.

Most urban dwellers live in concrete apartment buildings or stucco houses. Most of the rural people live in mud-brick houses in villages and are involved in farming. But some people raise livestock in a *nomadic* (wandering) lifestyle at least part of the year. These people live in portable, tentlike *yurts,* made of a round wooden frame covered with felt.

The Kyrgyz people wear both Western-style and traditional clothing. Traditional clothing for men includes a padded or a sheepskin coat, boots, and a white felt hat with black flaps. Married women often wear a white turban made of a long scarf.

Traditional Kyrgyz foods include *shurpa* (mutton and vegetable soup) and *besh barmak* (lamb and noodles with broth). Popular milk products include cheese, *ayran* (a yogurtlike drink), and *kumiss* (fermented mare's milk).

The Kyrgyz people enjoy folk songs and dancing. The recitation of *epics* (poems about heroic events) is a traditional Kyrgyz event. One of their most famous epics is the *Manas,* a poem describing Kyrgyz history.

The government requires children to attend school from the ages of 7 to 17. The country has 10 schools of higher education.

Land and climate. The Tian Shan and Alay mountains cover most of Kyrgyzstan. About three-quarters of the country lies at an altitude of more than 4,950 feet (1,500 meters) above sea level. Peak Pobedy, the highest mountain, rises 24,406 feet (7,439 meters) in the Tian Shan along the border with China. Only about 15 percent of Kyrgyzstan is below 3,000 feet (915 meters) above sea level. These areas include plains and mountain valleys. Most people live in these relatively low places. The chief rivers include the Naryn, Shu, and Talas.

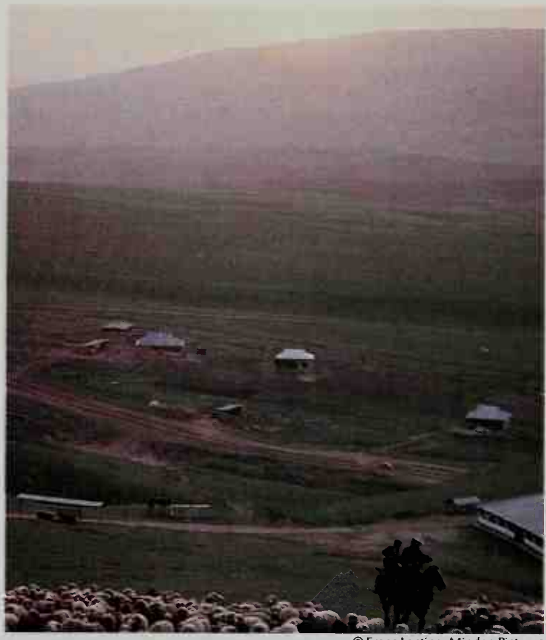
Temperatures in Kyrgyzstan vary with altitude. Summers are very warm and dry in the valleys and plains, and cool in the mountains. July temperatures average 60 to 75 °F (16 to 24 °C) in the valleys and plains and about 41 °F (5 °C) in the mountains. Winters are chilly in the lowlands, but extremely cold in the mountains. January temperatures average 7 to 23 °F (−5 to −14 °C) in the lowlands and −18 °F (−28 °C) in the mountains.

Economy. Agriculture accounts for about two-fifths of the value of Kyrgyzstan's economic production. Livestock raising is the chief agricultural activity. Sheep are the most important kind of livestock. People also raise cattle and goats. They graze yaks in the high mountains. Less than 10 percent of the land is suitable for raising crops. Farmers rely on irrigation to provide water for most crop growth. Chief agricultural products include cotton, eggs, fruit, grain, milk, vegetables, and wool.

Manufacturing makes up about a third of the value of production. Chief manufactured products include con-

Facts in brief

Capital: Bishkek.
Official language: Kyrgyz.
Area: 76,641 mi² (198,500 km²). *Greatest distances*—east-west, 580 mi (935 km); north-south, 270 mi (435 km).
Elevation: *Highest*—Peak Pobedy, 24,406 ft (7,439 m) above sea level. *Lowest*—Naryn river at the western border, 1,640 ft (500 m) above sea level.
Population: *Estimated 2002 population*—4,784,000; density, 62 per mi² (24 per km²); distribution, 66 percent rural, 34 percent urban. 1989 census—4,257,755.
Chief products: *Agriculture*—cattle, cotton, eggs, fruit, goats, grain, milk, vegetables, wool. *Manufacturing*—construction materials, food products, machinery, metals, textiles. *Mining*—antimony, mercury.
Flag: The flag has a red field with a yellow sun in its center. The sun bears a yellow disk with two intersecting sets of three curved red bands. See **Flag** (picture: Flags of Asia and the Pacific).
Money: *Basic unit*—som. One hundred tyin equal one som.



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Kyrgyz shepherds guide sheep across a grassy hillside. Livestock raising is Kyrgyzstan's chief agricultural activity, and sheep are the nation's most important kind of livestock.

struction materials, food products, machinery, metals, and textiles. The major industrial center is Bishkek. Mines in Kyrgyzstan yield a number of minerals, including antimony, coal, gold, lead, mercury, petroleum, uranium, and zinc.

Kyrgyzstan has only one major railroad. Roads link major Kyrgyz towns, but not all the roads are paved. Buses are the chief form of transportation. An airport at Bishkek handles all flights to and from Kyrgyzstan.

Radio stations broadcast from Bishkek and other cities. The country publishes newspapers and magazines in Kyrgyz and Russian.

History. Nomads who raised livestock were the first people to live in what is now Kyrgyzstan. They settled into the region from various parts of northern Asia. Beginning in about the 700's, Turkic tribes began to move into the region. Waves of Turkic migrations continued into the 1100's. Mongols conquered the area in the early 1200's. The Mongols established regions called *khanates,* which were ruled by chieftains. Some of the country's people are descended from the Turkic and Mongol tribes. In the 1600's, Islamic missionaries called *sufis* brought Islam, the Muslim religion, to the region.

Kyrgyzstan remained primarily under the domination of Mongol peoples until 1758, when China gained control. The Chinese maintained loose rule over the Kyrgyz until the 1830's, when the oppressive Khanate of Quqon conquered the Kyrgyz people.

The Russian Empire began to expand into central Asia in the mid-1800's. It defeated the Khanate of Quqon in 1876 and made the region a Russian province. The Russian government took control of vast areas of land and encouraged Russian, Ukrainian, and other Slavic peasants to settle there. Tens of thousands of foreign agricultural workers came. The settlement restricted grazing land and lowered the Kyrgyz standard of living. In 1916, the Kyrgyz staged an unsuccessful rebellion against the Russians. Thousands were killed on both sides, and as many as 150,000 Kyrgyz people fled to China.

Soviet rule. In 1917, revolutionaries known as Bolsheviks (later called Communists) seized control of the Russian government. The Soviet Union was formed in 1922 under Russian Communist leadership. In 1924, the Soviets made Kyrgyzstan an *autonomous oblast* (self-governing region) of the Soviet Union called the Kara-Kyrgyz Autonomous Oblast. In 1936, the region became a republic called the Kyrgyz Soviet Socialist Republic.

Soviet rule changed many aspects of life in Kyrgyzstan. The Soviet Union established a powerful Communist government and took control of all industry and land in the country. For hundreds of years, large numbers of rural Kyrgyz had been nomadic herders who raised livestock in mountain valleys in the summer and moved them to the foothills in the winter. In the 1930's, the Soviet Union set up government farms and forced the herders to live on them.

Under the Soviets, the Communist Party became Kyrgyzstan's only legal political party. In addition, Soviet law forbade certain traditional cultural practices, such as religious instruction. However, the Soviet government helped develop agriculture and industry in Kyrgyzstan. School and health care systems also were improved.

Independence. The Soviet government maintained strict control of all aspects of life until the late 1980's. In 1990, Kyrgyzstan declared that its laws overruled those of the Soviet Union. In August 1991, conservative Communist officials failed in an attempt to overthrow Soviet Union President Mikhail S. Gorbachev. During the upheaval that followed, Kyrgyzstan and several other republics declared their independence. In December, Kyrgyzstan joined other republics in a loose association called the Commonwealth of Independent States. The Soviet Union was formally dissolved on December 25.

After declaring independence, Kyrgyzstan began moving toward creating a free enterprise economy. The government introduced a new currency and began selling farmland and businesses to private owners. The government also opened the economy to foreign investments.

Problems facing the new nation included tensions between ethnic groups. In 1990, conflicts between the Kyrgyz and the Uzbeks over territorial claims and other disputes led to violence. The government declared a state of emergency, which was ended in 1995. Larry V. Clark

See also **Bishkek; Commonwealth of Independent States; Tian Shan.**

Kyzylkum, *kuh ZIHL KOOM,* is a desert that lies in southern Kazakhstan and northern Uzbekistan in central Asia. Kyzylkum means *red sands* in Turkic. It covers about 88,000 square miles (228,000 square kilometers) between the Syr Darya and Amu Darya rivers, and is southeast of the Aral Sea. Low hill ranges and sandy wastes and dunes cover parts of this desert. Loess soils are scattered in the southeastern portion. Other sections, such as the northern Syr Darya River plains and the eastern upland fringes, have been irrigated so that farmers can raise crops. Mining and livestock-raising are also part of the area's economy. Zvi Gitelman



